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THE ABILITY OF GRADE NINE STUDENTS TO OBTAIN AND USE INFORMATION FROM READING PICTURES AND PRINT IN SELECTED SOCIAL STUDIES MATERIALS

by

© ELVA MARION JONES

A THESIS

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled The Ability of Grade Nine Students to Obtain and Use Information from Reading Pictures and Print in Selected Social Studies Materials submitted by Elva Marion Jones in partial fulfilment of the requirements for the degree of Master of Education.

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ABSTRACT

Reading is a complex process of acquiring the meaning of the author's visual symbols and reacting to the message obtained. Social studies requires the reading of numerous and varied reference literature. These reference materials contain both verbal and nonverbal symbols such as words and pictures.

Research literature reviewed indicated that students were not always able to read nonverbal symbols. It was the purpose of this study to explore whether grade nine students could obtain and use information from reading pictures, written texts, and a variety of combinations of pictures and written texts in selected social studies materials.

The sample tested in this study was 120 students found in thirteen classrooms of four schools in the Edmonton Public School System. Equal numbers of grade nine males and females were designated as high, average, and low reading achievers according to their score on part one of the Davis Reading Test which was administered to 4902 grade nines in the E.P.S.S. in March, 1974.

The test sample was administered the Picture-Text Presentation test, the instrument devised to assess the students' ability to obtain and use information from reading pictures, written text or combinations of the two.

Ten forms of the test instrument existed but all forms contained the same set of thirty-eight multiple choice questions. Equal numbers of high, average and low reading achievers of both sexes were given each form of the test. A three-way analysis of variance was carried out on the data (sex by reading achievement by form of the test instrument).

The findings of the study indicated that there were statistically significant differences in the students' ability to obtain and use information from the different forms of verbal symbols and/or picture presentation. It was indicated by the findings that while reading achievement level was a highly significant predictor of achievement on the Picture-Text Presentation test, sex was not found to be significant as the same type of predictor. No interaction existed between sex, reading achievement level and the forms of the Picture-Test Presentation test, however.

The findings of this study suggest that as a group the grade nines had not had sufficient development of picture reading skills associated with social studies material. As well, it was indicated by the study that LRA were not as capable of obtaining and using information from pictures as were ARA and HRA. There were no sex differences in the ability of students to obtain and use information from pictures and/or written texts as found in their social studies references.

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Chapter I

INTRODUCTION

Reading is a complex process of acquiring the meaning of the author's visual symbols and reacting to the message obtained. The message can be relayed to the reader through a variety of materials.

Social studies requires the reading of numerous and varied reference literature. No longer, in Alberta, is one textbook the source of information, but instead, several texts as well as magazines, newspapers, and various audio-visual media such as filmstrips and tapes are used.

These reference materials contain both verbal and nonverbal symbols such as words and pictures. Both types of symbols can be read but the processes involved are different. Each has its own reading demands whether it exists separately or together with the other type of symbol.

Because social studies programs cannot provide the student direct experience with most curricular topics, reading becomes essential to the program and the reading demands of social studies material becomes an educational concern. Therefore, the question was raised as to whether students could read these reference materials.

THE PROBLEM

The resource books for social studies include a wide variety of illustrative materials among them maps, charts, diagrams, pictures, timelines, globes, graphs, drawings, and cartoons. From a preliminary cursory examination of fourteen social studies reference books the researcher found that the illustrative material usually appeared to have three roles (Table 3, Chapter II):

1. To duplicate the information of the written text
2. To give additional information as well as duplicating the information of the written text
3. To present information not given in the written text.

Most of these illustrative materials duplicated the information of the written text but in some cases it appeared that a student was expected to read the illustrative material for additional information. Only in a few cases was the information of the illustrative material not given in the written text.

The stated links between the illustrative material and print were usually statements in the written text such as "see the map on page 301" directing the readers' attention to the map. However, a student could take the initiative and direct his own attention to the illustrative material and thus initiate his own sequence of reading.

If a student followed the author's sequence though, it would usually be print then illustrative material, because the authors' directives came near the end of the written text about a particular topic which was illustrated.

Since authors presented the same information in both the illustrative material and the written text a student would have a choice if, at the beginning of the written text, he realized that the one source duplicated the other. However, the reference to the illustrative material was usually made after the information in the written text had been given. For the academically weaker student the repetition might have benefited or hindered him. The question of whether the author's placement of written text before his reference to the illustrative material was best for the reader also remained unanswered. For the academically stronger student who may only need either the print or illustrative material the choice usually came too late—after he had already read the information in print. Thus the choice did not really exist unless he initiated his own sequence by giving attention to the illustration and the written text in his personally chosen order. If a student was capable of using both print and illustrative material, and did so, he could have used part of both to gain the needed information. A concern, then, was whether students could obtain and use information from illustrative material and written texts.

The preliminary cursory examination of the illustrative material revealed pictures were in greater quantity than other illustrative materials in the junior high social studies texts, (Table 2, Chapter II). In contrast to other illustrative materials, however, a student's attention was not usually directed to the picture by the author leaving the student to decide what role if any, the picture would have. Pictures could still play a functional role in that they could support or reinforce the words, provide a nonverbal alternative to the verbal presentation, or supplement the verbal presentation.

Therefore, the question of whether or not students met the reading demands of pictures and/or print in social studies material was raised. It was the purpose of this study then to explore whether grade nine students could obtain and use information from reading pictures, written texts, and a variety of combinations of pictures and written texts in selected social studies materials.

The professional literature presented in Chapter II discusses the research and opinions of educators on this question and supports the cursory examination used here to identify the problem.

DEFINITIONS

In this study the terms below were defined as follows:

Symbols

1. Verbal symbols were graphical letter representations of words. The common terms used for these symbols were print or written text.

2. Nonverbal symbols were illustrative representations of reality. Pictures were the illustrative material of this study; other common examples of these symbols were maps, charts, diagrams, timelines, globes, graphs, drawings, cartoons and so forth.

3. Visual symbols were either verbal symbols and/or nonverbal symbols as defined above.

Types of Questions

1. A detail question was a four alternative multiple choice question that required the identification of facts from the information given in the Picture-Text Presentation test.

2. An inference question was a four alternative multiple choice question that required the identification of relationships from the information given in the Picture-Text Presentation test and the drawing of logical conclusions from that information.

Picture

A picture was a representation of a scene or an activity that was a reproduction of a 35 mm colour slide into a 4 3/4 by 3 1/4 inch colour print.

Types of Pictures

Two types of pictures, scenes and activities were used.

1. A scene was a picture featuring one of the following:
    a. Spanish farm
    b. Bridge in Switzerland
    c. Spanish coastal resort.
2. An activity was a picture featuring one of the following actions or events:
    a. Threshing grain in Spain
    b. Bullfighting in Spain
    c. Beach life in France.

Caption

A caption was a group of words that relayed an idea but did not contain a predicate. Examples of captions were:

a. "A farm and house in Spain"
b. "An old covered bridge in Switzerland"
c. "A bullfight in Spain."

Sentence

A sentence was a group of words that relayed an idea and consisted of both a subject and a predicate. Examples of sentences were:

a. "A distinctive sight in Lucerne is the covered bridge."

b. "The Spanish houses are two stories high with tile roofs."

c. "Many Spanish people enjoy the excitement of a bullfight."

Paragraph

A paragraph was the term used to designate one or more groups of sentences. Paragraphs, unlike the single sentence, were indented.

Picture-Text Presentation Test

The ten forms of the test that were used are indicated in Table 1. The material for reading was presented to students on an eight and one-half by eleven inch page with a picture placed without exception at the top of the page. When a caption or a sentence was present it was placed directly below the picture. If a paragraph was also present it was indented and placed below the picture which may have been accompanied by a caption or a sentence. The material in the written paragraph that accompanied a picture had two forms; one form did not direct the reader's attention to the picture (indicated by N), the other form did (indicated by D). When the material was presented in written text form only, that text began at the top of the page. After any one of the ten forms of the test was given, a common set of multiple choice questions was presented to the student in printed word form. The questions were the same for all presentations.

Table 1

Ten Forms of the Picture-Text Presentation Test

Form of Presentation and Material Read	Abbreviation
1. Picture Presentation	P
2. Picture and Nondirected Paragraph Presentation	PPN
3. Picture and Directed Paragraph Presentation	PPD
4. Picture and Caption Presentation	PC
5. Picture, Caption, and Nondirected Paragraph Presentation	PCPN
6. Picture, Caption, and Directed Paragraph Presentation	PCPD
7. Picture and Sentence Presentation	PS
8. Picture, Sentence, and Nondirected Paragraph Presentation	PSPN
9. Picture, Sentence, and Directed Paragraph Presentation	PSPD
10. Paragraph Presentation	W

Reading Achievement

1. High Reading Achievers (HRA). Those students whose Level of Comprehension scores for the Davis Reading

Test were at the sixty-eighth percentile or above on the 1974 Edmonton Public School norms were designated as High Reading Achievers.

2. Average Reading Achievers (ARA). Those students whose Level of Comprehension scores for the Davis Reading Test were between the thirty-eighth and sixty-seventh percentiles inclusive on the 1974 Edmonton Public School norms were designated as Average Reading Achievers.

3. Low Reading Achievers (LRA). Those students whose Level of Comprehension scores for the Davis Reading Test were at the thirty-seventh percentile or below on the 1974 Edmonton Public School norms were designated as Low Reading Achievers.

HYPOTHESES

Null hypotheses were formulated and tested by selected statistical procedures.

1. There is no statistically significant difference between student achievement scores on one form of the Picture-Text Presentation test and each of the other forms:

   a. P
   b. PPN
   c. PPD
   d. PC
   e. PCPN

f. PCPD

g. PS

h. PSPN

i. PSPD

j. W

2. There is no statistically significant difference between student achievement scores on all ten forms of the Picture-Text Presentation test and their:

a. Level of Comprehension reading achievement scores as measured by the Davis Reading Test

b. sex.

3. There is no statistically significant difference between student achievement scores on each form of the Picture-Text Presentation test and their:

a. Level of Comprehension reading achievement scores as measured by the Davis Reading Test

b. sex.

A null hypothesis was accepted when the level of statistical significance was greater than .05.

SIGNIFICANCE OF THE STUDY

The materials used within a social studies classroom portray events similar to those existing in the daily lives of people beyond any classroom. As well as finding these materials in a classroom they are also found daily when reading newspapers, magazines and bulletins, and viewing television. Thus being able to read these materials that contain both print and pictures becomes essential. If people were taught to read these materials within a classroom setting then this learning could be transferred to similar materials met outside the classroom.

If the study showed that there were differences in the ability of students to obtain information from different combinations of picture plus print then this information would be important for teachers, curriculum builders and authors so that better use could be made of these social studies materials by students. Knowledge of the ability of students to read visual symbols might indicate the need for a particular type of reading instruction. Such instruction could take place in both reading and social studies programs.

For the curriculum builder the study should provide some evidence as to the effectiveness of the teaching of pictorial interpretation as set out in the handbook for teachers of social studies, Responding to Change. The handbook outlines the skills to be learned and when they should be taught (p. 79). The findings of the study should indicate whether there is a need for teacher instruction in curriculum so that teachers can be aware of these skills, their grade placement, and have the knowledge to teach them. Curriculum builders could then discuss whether they should include in handbooks information as to how to teach pictorial interpretation.

If one form of presentation enables a student to obtain information better, an author may wish to use that presentation form in future texts. If it is found that reading ability has an influence upon the ability of a student to obtain information from one form of the Picture-Text Presentation test, this may have implications for authors of high interest low vocabulary books.

Therefore, the findings of this study will be important to teachers, curriculum builders, authors, and as a result of the above, to students.

LIMITATIONS OF THE STUDY

1. The study was limited to grade nine students within the Edmonton Public School System. Therefore, generalizations may be applied only to similar student populations in similar reading situations.

2. The study was limited further to the use of colour pictures of scenes or activities of a particular size, and placement on a page. Thus the findings can not be applied to any other type of illustrative material in any other form, size of illustration or placement on a page.

3. The Picture-Text Presentation test contained both verbal and/or nonverbal symbols in its presentation

of information but it questioned the students only in written verbal form. This may have had a bearing on the results of the tests. Also it cannot be known the extent to which students read either picture or written text when both were available.

4. Further limitations of this study concern the factors of intelligence of the students, teaching style and procedures, and students' previous experience with the teaching of pictures. These factors were not controlled in this study and remain unknown.

OVERVIEW OF THE STUDY

The study has been organized into six chapters.

The background of the study is found in Chapter II. The five areas discussed ~~are~~ the processes of reading, reading social studies material, reading pictures, reading nonverbal symbols in isolation, and reading nonverbal symbols in combination with print.

Chapter III discusses the pilot studies and the construction of the main testing instrument, the *Picture-Text Presentation* test. The reliability and validity of the instrument as well as its refinement are explained.

Chapter IV describes the experimental design of the study and consists of several sections. The first section describes the student sample while the second presents information concerning a testing instrument which was used to provide a measure of the variables. The third section outlines the design of the study. The method of data collection is followed by an account of the statistical procedures used in the treatment of the data.

Chapter V deals with the findings of the study and Chapter VI presents a summary of the study, a review of the findings, conclusions and implications and suggestions for further research.

Chapter II

BACKGROUND OF THE STUDY

INTRODUCTION

In seeking to explore whether grade nine students obtain and use information from print, pictures or both in social studies material, the literature was reviewed. This chapter relates that literature to the following five areas:

A. Theoretical background is provided by the first three sections:

1. Process of reading
2. Reading social studies material
3. Reading pictures, one form of nonverbal symbols.

B. Research and opinions on students' abilities to read print and pictures are provided in the last two sections:

4. Reading nonverbal symbols in isolation
5. Reading nonverbal symbols that exist in combination with print.

PROCESS OF READING

Reading was described in Chapter I as a complex process of acquiring the meaning of an author's visual symbols and reacting to the message obtained. "Reading is not simply a matter of discriminating graphic symbols from one another and decoding them one at a time (Gibson, 1969, p. 433)." More than a naming or word calling procedure should be required as the reader should use higher level cognitive processes in order to obtain the meaning of an author's visual symbols. These cognitive processes were even more involved when one needed to react to the message of an author. In order to find details and to recognize relationships as in understanding cause and effect in social studies material, the message had to be obtained and reaction to it had to take place. Thus in this study more than just the knowledge of sound symbol-letter symbol associations was involved in reacting to the message.

Gibson (1969) presented an analysis of how reading skills were acquired (p. 433f). The process as she described it was applicable to the reading of the social studies material in this study. Gibson, however, viewed the process that an elementary school child encounters. A student in grade nine should have acquired most of these basic skills involved in reading: the skill of learning to speak the language and use it as a means of communication; the skill of visually discriminating the letters of the alphabet; the skill of decoding the graphic units and the skill of learning to read by larger units in order to read by chunking (Gibson, 1969, p. 433-434). The fourth skill was one that was learned over years of practising in order to read meaningful groups of words or units together which she referred to as chunks or "high order units (p. 443)."

As a reader acquired these basic skills outlined by Gibson and used them, he acquired the total skill of reading. These basic skills or abilities as applied to the reading situations of this study are discussed below. The skill of oral language facility was considered by Gibson as a prerequisite to the communication skills of reading (1969, p. 433). The first ability then, was that of physically receiving a communication. In order to read, a visual symbol needs to be received either by sight or touch. The symbols of this study, both verbal and nonverbal, were received by sight with students given written text and/or pictures to read. Once a visual symbol was physically received the person had to be able to distinguish one symbol from another, the second ability involved in the reading process. In this study students had to distinguish among verbal symbols (words) and nonverbal symbols (pictures). The third ability involved in reading was being able to decode the visual symbols into speech. Although oral production was not necessary in the study, students could silently decode the symbols. The final stage in reading was the ability to obtain meaning from the decoded symbols and react to that message. Both the pictures and the print in this study needed decoding with students required to recall details, formulate relationships as in recognizing cause and effect from the presentations in order to answer specific questions. Without this final stage meaning was not obtained. It was only after one had proceeded through all steps that it could be said that reading had taken place. This process of reading could not be viewed as distinct steps that one moved through but instead a total process where abilities overlapped each other. By the ninth grade a student should have acquired these rudimentary skills of reading. However, they may not have progressed to the desired final stage nor have been able to perform adequately at that stage.

READING SOCIAL STUDIES MATERIALS

This section describes possible reading problems. Reading social studies material makes greater demands upon the reader than reading narrative type story material, the frequently chosen type of instructional material. Although some social studies material is written in narrative type like that of story material, most social studies references used at the grade nine level are expository. Similarities and differences existed in the narrative type story material and the expository type social studies material as noted by the researcher from a literature search and are reported below in attempting to identify possible reading problems.

Similarities with Story Material

Both types of material involved the same general reading process as discussed in the previous section, used verbal symbols or print, and in many cases used some form of nonverbal symbol combined with print. The strategies used by the reader to analyze words were the same for both narrative story material and expository social studies material. For example, the word character would be decoded by the reader in the same manner no matter in which type of material it existed. Many of the words generally considered to be sight words in story material also appeared in the social studies material. Knowledge of the sound symbol-letter symbol relationships, formation of words and knowledge of paragraph structure all learned in connection with reading narrative story material should be transferred to the reading of expository social studies material because they are common to both.

Differences from Story Material

Differences that make the reading of expository social studies material more difficult included vocabulary, concepts and purpose for reading. Only these differences are highlighted in this study and will be discussed.

Vocabulary. The vocabulary of expository social studies material placed greater reading demands upon the student. This material often contained words that although not restricted to social studies were usually first learned as specialized terms in social studies. The literal and figurative meaning of these terms were both important to the reader. Dallolio (1959) pointed out that specialized uses of common words such as cape and mouth must be understood in order for a student to advance in the subject area (p. 144). Gray and Reese (1957) noted that not only were a great number of specialized terms introduced but they were introduced quickly and with insufficient repetition (p. 375). The literal meaning could be difficult for the reader to obtain too, because of the unusual usage of a known word. For example, the student may be familiar with each word in a new term but not understand the meaning of the two words combined in a compound word as in common law (Preston, 1969) or suspension bridge (Nowell, 1963).

Figurative language in social studies material, although a common source of confusion in story material, became a greater problem in that a student must understand the particular usage before interpreting its relationship to the factual information presented in social studies material. A student of social studies often had to go beyond the interpretation of the figurative language in order to build upon this initial concept, which may be the basis for understanding the complete passage. Gray and Reese (1957) found that figurative language, although easier for adults to understand, may pose problems for students (p. 375f). A phrase such as "He hit the ceiling" demanded more than the recognition of words and their literal meaning. Nowell, using the words sleeping city, illustrated the difficulties encountered by some students (1963, p. 10f).

These problems of literal and figurative language were compounded because many of the terms were abstract. Hill (1960) discussed the advantage of students being able to learn the meaning of words by experiences in which they were involved (p. 59). Many terms in social studies were outside the experience and interest of pupils and were so abstract that direct personal experience was not even possible. Preston (1969) cited words such as the concept of world liberty and incorporation as examples of these abstract words. The background experience and the value system of the reader affected his interpretation and acceptance of what was read (Eller and Dykstra, 1959, p. 191). Magne and Parknas (1963) in a discussion of their findings agreed that the most effective form of teaching was to give the students direct experience but that this was not always possible especially in communicating knowledge of foreign countries. Students meet abstract terms in social studies material and these abstract terms "must be brought out of 'unreality' and into the experience of the students (Nowell, 1963, p. 12)."

Indefinite vocabulary terms, including spatial vocabulary, were forms of unclear terminology met by the reader of social studies material. When reading words like many, most, few or little the student may become perplexed. These indefinite vocabulary terms could cause a student to misunderstand a passage (Wesley and Wronski, 1958, p. 235). Spatial terms can also be unclear to students even though definitely stated in that a thousand miles is a distance difficult for students to understand although they can easily identify the words (Witty, 1962, p. 667). Equally unclear were spatial terms that were indefinite, such as nearby or surrounding. Although these terms also existed in story material, the blurring of meaning may not be as crucial to the understanding of the material read. Because the literature reviewed expressed concern about these vocabulary difficulties, this study built into its reading research instrument particular demands associated with vocabulary. Specialized terms, abstract terms, indefinite terms and spatial terms were all employed in the reading of the material in this study. Some additional vocabulary difficulties that were recognized but not highlighted in this study were:

1. Technical terms that were used mainly in a particular discipline such as the term meridian in geography
2. Structurally difficult words that had a known root word but a less common affix such as "iate" in differentiate
3. Abbreviations of words such as PMO or MP
4. Localized words that were particular to a region; a province or a parish such as bayman or roughneck.
5. Emotionally charged words such as terrorist or communist
6. Temporal terms such as era or century.

Concepts. A second reading demand of social studies material was that of its concepts. Although a concept may be relayed by one word it was the meaning presented by a sequence of words that was considered in this study. In particular, the student needed to become familiar with reading and interpreting passages that contained cause and effect relationships and comparisons. Smith (1964) stated that although the cause and effect writing pattern could be found in other subjects it was found most frequently in social studies material. Also, "a pattern calling for comparison of likenesses and/or differences is a common one in history and in the social studies (Smith, 1964, p. 98)." A student needed to be capable both of comparing objects or ideas and understanding cause and effect relationships in social studies readings that were not required as often in story material. Both cause and effect relationships and comparisons have been written into the reading material of the present study.

Purpose. The student was faced with a third reading demand, in that more concentrated demands for reading using selected purposes were required. One more frequently approached expository social studies reading to find facts, determine relationships, draw conclusions or determine the philosophy of the author. In a short passage more than one selected purpose may be required. Shepherd (1960) indicated that concentrated demands were necessary for picking out main ideas and supporting details often needed to establish cause and effect relationships and to make comparisons. Because social studies material may require of the student concentrated demands for particular purposes for reading, the present study built in two such purposes. Students were required to find details in order to establish cause and effect relationships and to make comparisons when answering the questions.

Reading is a complex process. The differences that existed between reading narrative story material and expository social studies material compounded the problems of reading encountered by students when much instruction was given using story material. But skills for reading the verbal symbols of social studies material can be developed. However, it was recognized that the reading materials themselves provided difficulties for the reader of social studies material and some of these difficulties were therefore written into the test instrument of the present study.

READING PICTURES, ONE FORM OF NONVERBAL SYMBOLS

This section presents a discussion concerning why pictures were chosen for this study, and the problems of reading pictures.

Choice of Pictures

To determine which form of illustrative material was most commonly found in social studies books a random sampling of junior high social studies reference books found in one school in the Edmonton Public School System was taken as indicated in Chapter I. The school was chosen because it had been involved in pilot projects in which teaching units for a new social studies curriculum, Responding to Change, had been developed and therefore used a wide variety of the books that were subsequently on a list of books recommended by the Edmonton System for grades seven to nine. Seventy-six books in grade 7, ninety-eight books in grade 8 and one hundred books in grade 9 were used as the book population from which, using a table of random numbers, three grade 7 books, four grade 8 books and four grade 9 books were selected as a book sample. Each book selected was then analyzed according to the type and number of nonverbal symbols that it contained. These results are shown in Table 2. The illustrative material found in greatest quantity in the books sampled was pictures, giving support to the use of pictures in this study.

Table 2

Types of Illustrative Material Found in Selected Social Studies References

Type of Illustrative Material	Grade 7	Grade 8	Grade 9	Total	Percentage of Total
Maps	117	158	175	450	21
Charts	10	32	28	70	3
Cartoons	--	23	24	47	2
Diagrams	10	6	14	30	1
Pictures	296	596	473	1355	65
Tables	12	4	21	37	2
Graphs	4	10	13	27	1
Timelines	--	1	--	1	1
Illustrative drawings (not identified above)	48	10	23	81	4
Total	497	840	761	2098	100
Grade Percentage	24	40	36	100	

The eleven books were again analyzed to determine if four of the types of illustrative material presented information duplicated by the print, in addition to that of the print or not given in the print. Graphs, maps and cartoons were included because the researcher had an interest in these as possible choices of nonverbal symbols for the study. The results of this analysis are indicated in Table 3. According to the researcher the majority of the illustrative material found in the books sampled appeared to duplicate the information of the print. It can be noted that although pictures and graphs represent a four to one relationship of duplicating print over duplication plus addition, the same relationship was not found for maps and cartoons.

Table 3

Contrasts of Information in the Illustrative Material and Print

Illustrative Material Type	Information Duplicates Print	Information Duplicates and Adds	Information not in Print	Total
Graphs	9	2	1	12
Maps	153	--	--	153
Cartoons	10	--	1	11
Pictures	436	106	58	590
Total	608	108	60	776

Reading Pictures

In order to read pictures one must perceive them. More than just seeing the object physically was required as the knowledge obtained through this seeing was also essential in the process of visual perception, or the gaining of knowledge through seeing. The perception of any nonverbal symbol, as well as any verbal symbol, was influenced by the object that was viewed and the viewer of that object. Perception was not a simple process but indeed complex because of these two factors. The object being viewed may be part of a real life experience for the viewer or it may be an abstract shape of the same experience drawn on a paper and viewed by the same person. "The more abstract and remote the connection between the shapes drawn on paper and the meanings and ideas with which they are associated, the greater and more prolonged the effort to understand and utilize it (Vernon, 1962, p. 102)." Vernon (1962) discussed the difficulty involved because of the abstractness of the visual aid. She referred to this ambiguous process of perception as being caused partly by "the great complexity of the perceived field of view (p. 237)."

It cannot therefore be assumed that perceiving nonverbal symbols is an innate ability of students. Students must be taught to perceive these materials that are symbolic. One skill that needed to be learned was to understand size of objects presented in pictures. Munroe and Munroe (1969) referred to this development on the part of the student of "stable expectations about an object as object constancy (p. 67)." Thus changes in size were attributed to differences in the "distance from the object, rather than to real change in the size of the object (p. 67)." The comparative or relative sizes of objects viewed also needed to be learned. Another aspect that needed to be learned was depth perception, perceiving three dimensional objects from a two dimensional picture (Munroe and Munroe, 1969).

The second difficulty of perception was that associated with the viewer of the object. Difficulties may arise here due to physical and psychological limitations in the perception abilities of the viewer. Many types of vision problems such as colour blindness or lack of visual acuity can make the process of perception more difficult. As well, psychological problems such as psychosis or emotional problems can distort the perception of the object. "What one sees, what one recognizes and what one can report, are not always the same (Travers and Alvarado, 1970, p. 54)." It was obvious, therefore, that the reading of pictures in social studies could be more difficult due to particular problems in the process of perception.

As previously mentioned the degree of abstractness of the learning experience complicated this perceptual process. In order for a student to obtain the meaning of a picture and react to it he needed to perceive the symbol and be able to bring meaning to it. Dale (1962) discussed the degree of abstractness involved in audio-visual materials relating it to the learning process of the viewer. The viewer in this study was required to decode learning symbols that would be near the top of Dale's cone of experience. His cone of experience is shown in Figure 1 and indicates that the nonverbal

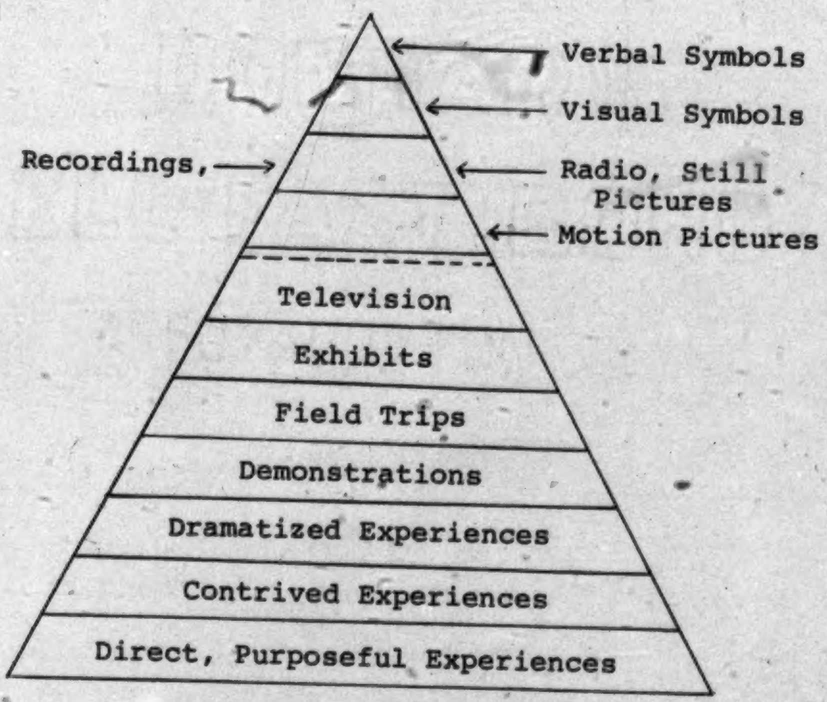
Verbal Symbols
Visual Symbols
Recordings,
Radio, Still Pictures
Motion Pictures
Television
Exhibits
Field Trips
Demonstrations
Dramatized Experiences
Contrived Experiences
Direct, Purposeful Experiences

Figure 1

Dale's Cone of Experience

symbols involved in the reading process are near the top with regard to abstractness. This was further reason for careful teaching of pictures in social studies if they were to be perceived and understood by the student during his course of learning. One aspect of Dale's cone of experience that this writer disagreed with was his placement of still pictures. The writer maintained that pictures were visual symbols that may be no less abstract than Dale's diagrams or charts that he places as visual symbols. A student may not find a picture of a foreign country to be a "realistic representation of the thing itself but an abstract reproduction (Dale, 1962, p. 52)" because of lack of experience, just as he might find a diagram of an engine to be a "realistic reproduction of the thing itself (Dale, 1962, p. 52)" because of his close association with engines. As well, it was recognized that the layers were not clear cut but intermingling took place in that verbal symbols were used in radio and television programs, motion pictures and so forth.

Although the definition of reading, that of the ability to obtain the meaning of the author's visual symbols and react to the message obtained, applied to pictures as defined in this study, there were definite differences between the reading of pictures and print. Both pictures and print were abstract symbols found near the top of Dale's cone of experience. However, pictures in this study were primary representations of objects in reality whereas print was a secondary representation of sound symbols which were in turn representations of oral language. For this reason print or verbal symbols were often said to be more abstract than pictures. This should have made pictures easier to read than print but the information of pictures is almost always placed into verbal form to be understood and used. It was here that additional difficulties arose in the reading of pictures. Two people may view a picture and formulate differing ideas about that picture or the information it contains because each must formulate his own ideas about the picture from his own background of experience. However, the ideas already formulated by an author may be more confining for a reader of print as a particular viewpoint or focus is presented, even though reactions may differ to what was presented.

Although print may be a more abstract form of symbol, reading pictures was more difficult because of the formulation of ideas that must take place by the reader alone in order for him to understand the picture. The ideas formulated depended upon the background of a reader and thus may be a narrower view than that given by print as a reader of print has the author's ideas as well as those he formulated himself. Print and " . . . the picture cue is always subject to group and individual interpretation (Dale, 1962, p. 245)." The reader of pictures, however, must formulate the concepts alone. Like words, pictures were also removed in time and place from the reader but it was often harder to detect time and place from a picture than from print. Therefore, the ease of presenting concepts more clearly provided the first difference between reading pictures and print.

A second area where print and pictures differed was that of the elements or cues involved. Print contained a familiar element to most students, that is, letters of the alphabet. Pictures, however, involved elements relatively untaught in the reading of pictures, such as elements of depth perception, size perception, time, shades and colour which needed to be decoded in turn into verbal symbols so that understanding could take place. This study recognized the presence of these elements in the pictures that were presented.

The third difference between the reading of pictures and print was that of sequence. There was no sequence that a reader needed to follow when reading a picture whereas a definite sequence occurred in the reading of letters and words. The reading of a sentence of print has a sequential order in English. The eye movement or pattern involved in reading print was from left to right, top to bottom. The reader may regress but the usual pattern or sequence was followed. In reading pictures there was no fixed pattern of left to right or top to bottom or other pattern that could be demanded by the photographer. The reader of this study had to adopt his own sequence for reading pictures but was guided by set rules taught him for reading print. The reader also chose his own sequence of reading, picture then print, vice versa, or some combination of the two, even though the picture was presented at the top of the page before the print was given.

The last difference to be discussed concerned the density of information. A 4 3/4 x 3 1/4 inch picture can contain as much information as several pages of print. The condensed information in nonverbal form demanded particular skills in order for the reader to extract the information. The pictures used in this study duplicated a page of information of print in a 4 3/4 x 3 1/4 inch space and required that students decode the nonverbal elements of the picture into verbal form.

Even though there were differences in the reading of pictures and print they were the same in that both were a form of visual symbol that needed to be interpreted for the message to be obtained so that reaction to it could take place.

READING NONVERBAL SYMBOLS IN ISOLATION

It was the writer's belief that a difference existed between the skills involved in students' ability to read nonverbal symbols in isolation and those found when nonverbal symbols accompanied written selections. If students could not accomplish the task of reading nonverbal symbols in isolation, then they might not be able to accomplish the additional task of reading combined print and picture material. This selection presents the views and research findings of educators concerning students' ability to read nonverbal symbols when they existed alone.

It was this question of students' ability to read these materials that was raised in this study. Fay (1961) indicated that "children have been handicapped by the erroneous notion, often fostered by adults, that illustrations and photographs do not involve language (p. 24)." Pictures must be put into some form of spoken or written commentary by a reader in order to understand them. Fay cautioned that children do not have an innate ability to read pictures. The present study was designed with twelve students required to read pictures only to obtain information so that some indication of the students' ability to read picture in isolation could be assessed.

Another indication of the students' inability to read these illustrative materials was indicated by Wesley and Wronski (1958) in that students they observed tended to skip over such materials when reading. Whipple (1959) believed that difficulty arose because the language of dots, circles, shades, lines, colours and other devices was strange to students and teaching needed to be done before interpretation could take place (1969, p. 63). She indicated, however, that the use of pictures could aid a teacher in making scale more easily understood by children. She claimed this could be done with three pictures of an object familiar to the class but different in size. However, a question was still whether the student can read these nonverbal materials.

Munroe and Munroe (1969) conducted a depth perception study with twenty-four children, age seven to thirteen, from the Logoli tribe in East Africa. Four pictures were shown individually to the subjects who were each orally asked one question about each picture. The oral answers indicated the subject's awareness of depth perception. As well, the same research procedure was adopted for eighty-six boys and fifty-six girls in grade seven from the Logoli tribe. Twenty-six nursery school children, aged three and four, and twenty-four kindergarten children, aged five and six, in the United States were also administered the same test. Munroe and Munroe found that at the time of starting school an American child, regardless of the environment and particularly a girl, "needs explicit instruction in learning to understand the language of pictures as well as the language of numbers and the language of words (p. 72)." It was clear to them that pictures were not self-explanatory to either the American or East African children and were not a universal language but needed instruction, not just exposure. Although the researchers recognized that the use of the same pictures for culturally distinct samples was questionable, their attempt to explore the picture reading ability of children provided insight for further research with older children.

As compared with adults, young people were markedly deficient in learning from pictures and "the differences appear to be qualitative as well as quantitative (Levie, 1973, p. 38)." The ability to learn from pictures increased with age and education. Young children had trouble interpreting dimensional cues, for example (Brown, 1969). His research on seventy subjects ranging from ages three and one half to nine years explored whether a child perceived depth in a two-dimensional display. He asked young children to reconstitute objects in a photograph into three dimensions using a plastic farmset and found that even by age eight and nine the subjects were not all able to accomplish the set task. The depth perception ability of grade nine students was not indicated by this research but the pictures used here as well as in the present study had depth.

Spitz and Borland (1971) felt there had been no research measuring the redundancy of meaningful pictures in the form of line drawings, that is, the surplus lines given but unnecessary for object identification. They tested ten boys and ten girls at each of the following levels: nursery school, kindergarten, second, fourth and sixth grades, high school, college and a special class of retarded students. In addition, a group of six adult men with advanced degrees were included. A total of 368 drawings made from 46 pictures of familiar animate and inanimate objects such as a bird or an apple were laminated onto cards and presented to each subject. Subjects were individually tested and were asked to identify the drawings that had parts deleted. They concluded that the students "sometimes fail to recognize the distinctive features of an object in a drawing (Spitz and Borland, 1971, p. 205)." The interpretations an adult subject made of a picture held little meaning for the students. This study required students to recognize what were considered by the researcher to be distinctive features of pictures.

Although belief in the importance of nonverbal symbols was evident, research reviewed did not point clearly in the direction of the ability of students to gain information from these symbols. As much of the research had been conducted on young children, the abilities of junior high students to read pictures was not well researched. This study recognized the possible difficulties inherent in the reading of pictures in isolation.

READING NONVERBAL SYMBOLS THAT EXIST IN COMBINATION WITH PRINT

Two points concerned with the combination of print and pictures are dealt with in the following two sections. The first concerned the question of whether nonverbal symbols aided students in their understanding of print while the second concerned the ability of students to read nonverbal symbols and print combined which required the movement from one to the other.

Nonverbal Symbols as an Aid to Understanding Print

Much has been written about the expression "one picture equals a thousand words" and the general value of illustrative materials. This section presents the research findings and the opinions of educators concerning the question of whether or not nonverbal symbols aid the understanding of illustrative materials.

Hill (1960) argued that nonverbal symbols were necessary for the building of concepts in social studies materials. Because so much of the information was removed in time and place from the students, she felt that pictures brought much clearer understandings and a reality to subjects that the printed word alone could not. Hill felt that a child could gain information about a place from pictures that provided a readiness for the printed symbol.

Keir (1970) was of the opinion that pictures had been used for a long time to aid learning. She felt that they stimulated interest and stirred the imagination, linked the known to the unknown and helped general reasoning and comprehension. Although Wesley and Wronski (1958) would agree with Keir's position they would probably add a condition concerning teacher involvement in learning. Pictures can convey meanings pertaining "to time, place, action, persons and temperament . . . [and] . . . by skillful questioning, the teacher can . . . help the students to infer from a picture what a person is saying or thinking (Wesley and Wronski, 1958, p. 190)." With this skillful teaching, events preceding the picture and possible succeeding events could be inferred.

Research, however, did not present as favorable a picture as opinion portrayed. Miller (1938) tested about 600 children in grades one to three inclusive, with about 100 children in each half of the three grades. These 600 children and their fifteen teachers were from three elementary schools. The class of each teacher was divided into two groups matched in reading ability. One group read three stories that had pictures accompanying the print while the other group read the same three stories with the pictures covered. Each group was asked questions to check comprehension of the reading material. He indicated that children understood what they read just as well without pictures as with pictures. Some of the questions, however, such as identifying from two phrases the one pronounced by the teacher, were not measures of what is presently called comprehension (Samuels, 1970). Some questions of Miller's were comparable forms of comprehension questions to the present study even though his form of asking was to complete sentences after reading a paragraph rather than the multiple choice questions of the study reported in this thesis.

Weintraub, as reported in Samuels (1970, p. 403), investigated the effect of pictures on comprehension. He had grade two students read materials that were illustrated and those that were not accompanied by an illustration. After reading, the students were given multiple choice questions that measured their comprehension of details and main ideas. Weintraub found that comprehension scores were higher when pictures were not present but Samuel's report gave too few details of the research to draw conclusions.

The research of both Miller and Weintraub, although conducted on young children using story materials, was important because it indicated the abilities of children to understand pictures when they first met them as part of formal instruction. The following research reviewed studies on students closer in age to grade nine students, the subjects of this study. Magne and Parknas (1963) presented a study that concerned the problems of the learning effects of projected pictures when used as instructional aids. Their subjects were 228 boys and girls aged thirteen who were divided into two groups so that the average science mark for each group was the same. Group one received the information series in slide form, P1, W2, P3, W4, while group two was given W1, P2, W3, P4, also in slide form where P is picture and W is words. Immediately after the information slide, retention of information was tested in different combinations (PP, WW, PW, WP). However, it was not evident in the research who received which test. On the basis of their findings they claimed that in the proportion of three unstated items out of the four unstated items they found pictorial learning to be superior to verbal learning even when retention was measured by verbal tests. In a second experiment 192 boys and girls aged eleven and twelve were divided into two groups and presented with the same lesson on Greenland, one with a filmstrip and one without. Although no statistically significant differences between student group scores were observed when retention was tested with a verbal test, there was a statistically significant difference in student group scores "in retention between the group taught with a filmstrip and that taught without one when retention was measured by a pictorial test (1963, p. 273)." They concluded from their findings that learning effects were increased if nonverbal aids were used.

Vernon's research (1950) was conducted on twenty-four boys and fifteen girls aged fifteen to eighteen from the sixth form of grammar school. The material read by the students was presented in three series with content relating to vital statistics such as population or morality. Each of the three series had five presentations in three forms: a pictorial chart or pictogram, a graph and a table of figures. By having three groups of students it was possible to rotate the three series in their three forms of presentations so that each series was seen by an equal but unstated number of subjects. Each student subject was individually shown the presentation for two minutes after which he was asked three or four factual oral questions to which he gave oral replies that were recorded by the experimenter.

A second experiment used the same content as described above but fifteen charts were employed, twelve being the same as above. Grouped into three series as before, a written text was prepared corresponding to each series for the sixteen subjects from the sixth form of a girls' grammar school. Students were divided into three groups of unknown number and tested individually. Group one read the text of Series I for five minutes, then studied the five charts separately for a total of five minutes; read text of Series II and studied the charts simultaneously for ten minutes; and studied the charts of Series III for five minutes followed by reading the text for five minutes. The other two groups were also rotated so that all possible arrangements for each series were read by approximately the same number of students. Oral questions to check on retention of information were asked by the researcher after each series to which oral replies were made. Vernon claimed, on the basis of this research that nonverbal symbols did not aid understanding. She claimed that "it seems reasonable to suppose that material should be verbally presented since only in words can reasons and relationships be directly stated (p. 184)." Vernon had conducted several other research studies concerning the topic of nonverbal symbols. These will be discussed in the succeeding section. However, it is worthwhile to note here that, on the basis of her research, she would not support the claim that nonverbal symbols aid understanding of materials.

The opinion of educators supported the position that nonverbal symbols aid understanding while research on the whole, did not support this position. This present study presented reading material with both pictures and print to students and sought to explore whether they were better able to obtain information from one form than another. Further, the study presented the print and picture combinations simultaneously, not one then the other. The questions presented to the students were in written form, not oral. It differed from some of the above studies in that the test was not timed and the students answered the questions while they still had the information in front of them, a situation comparable to school activities. Although the research reviewed was questioned because of lack of information available or procedure used it pointed out particular areas that need further research.

Students' Ability to Read Nonverbal Symbols and Print

A skill even more complex than reading a nonverbal symbol in isolation may be that of reading such in combination with print. The reading ability of a student was tested when that student interrupted his reading to investigate and study a nonverbal symbol and then reverted back to print again. This process required a linguistic as well as a physical adjustment on the part of the student. This section presents opinion and research concerning this matter.

Bond and Wagner (1955) indicated how complex a problem the movement between nonverbal symbol and print can be by citing an example of Helen, an intermediate student, who was reading geography. She was told after reading twenty lines to look at Figure 1 on page 30. She did and then found her place again only to read "You noticed in Figure 1 that . . . (p. 97)." She had noticed no such thing as she had not been told specifically what to look for! The above situation led to frustration for this immature reader who was directed by the author several times to a page other than the one she was reading to view a nonverbal symbol. An inability to read the nonverbal symbol compounded the problem. Thus students could find this situation of breaking of the sequence of ideas so intolerable they lose interest (Dallolio, 1959).

Smith (1963) discussed difficulties encountered by students reading geography. The complex materials that the student was to abstract from reading print were made more complex by the student having to refer to a map or picture for additional knowledge and then return to the print to incorporate that knowledge into what had already been read. The above procedure required specific skills not only for the physical adjustment of interrupted reading but also the reading of nonverbal symbols.

Jefferson (1959) contended that the building of relationships between illustrative materials and the written text was a two step process. The first step involved the mastery of the skills required for reading the particular type of illustrative presentation while the second step was the making of the meaning connection between the illustrative material and the word text.

Koenke and Otto (1969) conducted a study to investigate the extent to which pictures relevant to the content contributed to children's comprehension of the main ideas of a printed passage. Their test sample was a group of forty-five girls and forty-five boys in each of the third and sixth grades. Three 198 word passages were presented in three modes: the passage was accompanied by a picture that was specifically relevant to the main idea, the passage was accompanied by a picture that was generally relevant to the main idea or the passage was not accompanied by a picture. No clear indication of the difference in meaning between specifically and generally relevant was given. The three passages were reported to have a readability level of between 5.0018 and 5.4916 and each was taken by thirty grade three students and thirty grade six students. Each mode was taken by five boys and five girls from each grade level. On the basis of the findings it was concluded that pictures did not appear to increase comprehension of the grade three students who were reading difficult material. But from the performance of grade six students they found that the students did use pictures to enhance their understanding of the main idea. In an earlier study Koenke (1968) did not find that pictures enhanced the main idea so concluded in this 1969 study that this enhancement would be so only for the longer passages as used in this later study. Koenke and Otto concluded that "as long as pictures have general relevance to a topic, their presence is likely to enhance main idea responses even in the absence of explicit directions to attend to them (p. 301)." The present study presented pictures considered to be specifically relevant by this researcher to the main idea of the passages but which tested grade nine students' reading comprehension on materials that had a readability below their grade level, reducing the numbers of students reading too difficult material.

Vernon conducted several studies dealing with the ability of students to use visual aids and one study (1950) that examined the ability of grammar school students to read and interpret graphical materials was described in a previous section of this chapter. In discussing her finding that the ability to understand and remember the contents of a written text was not always facilitated if the text were accompanied by graphs or charts, Vernon indicated that "it might be considered that the procedure in which charts and text were studied simultaneously would have a distinct advantage over the procedure in which they were studied successively (p. 182)." However, she found that many students read one, then the other, and did not go from one to the other to verify information. She concluded that if illustrative material is introduced, "it must be simple and readily comprehensive in itself and must not offer any point of disagreement with the written text (p. 184)." It was difficult for this researcher to decide how Vernon's above conclusion could be implemented so that both an author and a photographer presented comparable information when the interpretation of both depended upon a third person.

Vernon in her 1953 study was concerned with whether or not a similar reading distraction appeared when a verbal test was illustrated with pictures rather than graphs. Fourteen boys and twenty-four girls from grammar schools read articles of 700 to 800 words in length about causes and cures of tuberculosis (A) and illnesses of young children (B). Two were written in "popular style" (believed to mean narrative) (A1, B1) and included four photographs of living conditions in the slums while two others were written more objectively and scientifically (A2, B2)) and were accompanied by graphs showing data on disease and mortality. Half of the students were given articles A1 and B2 and the other half were given A2 and B1. She found that "pictures are still less able than are graphs to demonstrate relations and explanations (p. 186)." However, since two conditions varied, style of writing and type of nonverbal symbol, the conclusions are questioned by this researcher. However information can be gained from the study in looking at students' ability to use pictures in combination with print even if comparisons of graphs and pictures are questioned. The present study varied only the combination of picture and print information viewed.

In 1954 Vernon carried out two studies of the effects of pictures on learning using different tests. The test sample was twenty-four girls aged eleven or twelve for the first study and for the second study thirty girls and boys aged ten to twelve and thirty girls aged ten to twelve. The first study required the students individually to read a passage that had pictures for ten minutes and then read a passage not containing pictures for ten minutes. The second study eliminated the necessity for student reading and had a shorter passage read to the student by the researcher while the student viewed pictures. The results indicated no conclusive evidence that the pictorial illustrations produced anything more than a very limited addition to the information and instruction given in the written texts.

The studies reviewed indicated the limited ability of students to increase comprehension of written material when the material included pictures. For some students pictures appeared to be of no aid at all. The difficulties of reading print and pictures in combination were indicated by the research and opinions of educators. This study recognized these difficulties and attempted to explore the difference that might exist between the reading of passages that directed the reader's attention to the picture and those that did not direct the reader's attention to the picture. As in the case of Koenke and Otto's study the pictures used in the present study were relevant to the content of the passage, but would be considered short passages by them.

SUMMARY

This chapter has attempted to provide a framework for the study. In order to explore the ability of grade nine students to obtain and use information from a picture when the picture is presented by itself or in a variety of combinations with print, it was necessary to examine the process of reading. A procedure for reading print was outlined and the similarities and differences between reading story material and social studies material was presented. The reading of social studies materials was thus considered more difficult because of the nature of the material itself. Problems associated with vocabulary, concepts and more concentrated reading demands using selected purposes may have created difficulties for the reader.

One form of nonverbal symbols, pictures, was presented as an abstract symbol that was different to read than print, another abstract symbol. The opinions of educators upheld the Chinese proverb "one picture equals a thousand words" while most research claimed that students did as well without pictures as with them. Thus, the inclusion of nonverbal symbols was not generally reported to aid understanding.

Since some of the research reviewed was conducted at a lower grade level than the present study, and since added years of education and experiences may have provided additional skills for students of this study for reading pictures, the findings of the research available was of limited value to this study. Particular reading demands for social studies material that were pointed out in the literature reviewed have been built into this study.

Chapter III

THE CONSTRUCTION OF THE TEST INSTRUMENT

INTRODUCTION

This chapter discusses the pilot studies and the test instrument. The description of the construction of the final form of the Picture-Text Presentation test, the main testing instrument used in this study, is included in the section on the test instrument. The progressive refinement of this instrument is described in the report of the pilot studies.

THE PILOT STUDIES

The first pilot study was conducted by the investigator on April 8 and 9, 1974, using sixty grade nine students from five classes from two schools in the Edmonton Public School System. This pilot study will hereafter be designated Pilot I. The schools used in the pilot studies were widely separated from each other and had students whose backgrounds were found in all seven classes of Blishen's Occupational Class Scale (Blishen, 1961, p. 481-484).

Pilot I student sample was selected by four social studies teachers of these five classes to meet the following criteria:

1. Approximately equal numbers of students were included who were considered by their teachers to be poor, good or excellent in social studies. The teacher rating in social studies was compared by the researcher with the student's achievement on the Level of Comprehension section of the Davis Reading Test for interest sake. The teacher rating in social studies was consistent with that indicated by the student's score on the Davis Reading Test with the exception of one student who was rated much higher by her teachers than her Davis Reading Test score indicated.

2. In these three groups both sexes were included in approximately equal numbers.

3. Students came from homes where all classes of occupations on the Blishen Occupational Class Scale, as indicated in Chapter IV, were included and although no one class appeared to be chosen out of proportion to the others, there was no attempt made to control the proportions according to Blishen's Scale.

The second pilot study, also conducted by the investigator, used eighty-eight grade nine students found in four classes in one school in the Edmonton Public School System, who were not from the same school as those in either Pilot I or the main study. This pilot study was conducted on April 24, 1974 and will hereafter be designated Pilot II. During the administration of the untimed Picture-Text Presentation test in Pilot II, all students were required to take their test booklet, answer sheet, pencil and books to another room to finish the test. This interruption may have influenced the results of the test.

Pilot II student sample was selected from four student classes by the social studies teacher of the school. The same criteria were used to select students for Pilot II as for Pilot I.

Purpose of the Pilot Studies

The pilot studies provided student test scores which permitted test item analyses on two forms of the Picture-Text Presentation test including measures of item difficulty and reliability in order to improve the test and to check procedures for administering it.

Pilot I then provided information as to the effectiveness of the test instrument: Pilot II checked subsequent changes in the test instrument and its administration. As a result of observations during the testings and in conversation with the students after the testing situations, feedback regarding time needed for test administration and the format of the questions and answer sheets was provided.

Forms of the Picture-Text Presentation Test Used in Pilot I

Two forms of the Picture-Text Presentation test were used to provide data in Pilot I. The two forms, P and PSPD, were selected because the researcher believed that they represented the extremes in terms of availability of information. P made the least information available containing only pictures while PSPD with pictures followed by sentences and directed paragraphs gave the most reader information. It was believed that if the test was reliable in these two forms, the test forms between these two in terms of availability of amount of information, would also be reliable. The forms given in Pilot I are outlined in Table 4.

Table 4

Data About the Forms of the Picture-Text Presentation Test Used in Pilot I

Data			Total			Total
Form	P			PSPD		
Subtest	Scenes	Activities		Scenes	Activities	
Number & Type of Topics	3 Farm Bridge Village	3 Threshing Bullfight Beach		3 Farm Bridge Village	3 Threshing Bullfight Beach	
Number of Questions	27	27	54	27	27	54
Group Taking Subtest	A	B		B	A	

For each form, P and PSPD, there were two subtests, Scenes and Activities, each with three topics. Both subtests Scenes and Activities were identical in each test form, P and PSPD, as were the fifty-four multiple choice questions asked in both. The only difference between the two test forms was in terms of the additional information for PSPD in the sentence and directed paragraph. Equal numbers of students (30 students of group A and B) wrote one subtest of the P form and one subtest of the PSPD form as indicated in Table 4. No student could take both Scenes subtests from the two forms as they were identical in topic information and questions asked. Table 4 also indicated the number of questions for each form of the test and each subtest given in Pilot I.

The same two forms, P and PSPD, were used for Pilot II. The changes in the subtests are discussed in the following section.

Reliability of Tests in Pilot Studies I and II

An item analysis program, Test 04, developed by the Educational Research Services at the University of Alberta was used to provide a measure of reliability for the tests in the pilot studies using the Kruder-Richardson Formula-20 (KR-20), a measure of the internal consistency of the items of the test (Thorndike and Hagen, 1969, p. 185).

The reliabilities of subtests of forms P and PSPD are found in Table 5. The Scenes subtests were lower in reliability than the Activities subtests. As well, the PSPD form of Scenes was higher than the P form in reliability. The highest reliability was 0.61 and the lowest was 0.39. For this pilot any reliability below 0.60 was not acceptable to the researcher. A reliability coefficient was desired that would not be unrealistically high nor too low to be of value; therefore, 0.60 was chosen.

Table 5

KR-20 Reliability of P and PSPD for Pilot I

Type of Picture	P	PSPD
Scenes	0.3965	0.4938
Activities	0.6158	0.5385

To improve the measures of reliability two steps were taken:

1. Test forms, P and PSPD, were increased in length by combining subtests Scenes and Activities into one test. This eliminated the possibility of comparing a student's score on Scenes with his score on Activities and thus eliminated the exploration of the effect of the type of picture on the student's ability to obtain

information from pictures. It did, however, increase generalizability, as the results could now be generalized to pictures of scenes and activities as a group rather than to one type of picture only.

2. Questions were changed or deleted. Sixteen questions with biserial correlations below .036 and/or reliability coefficients below .008 were eliminated because they were the lowest and considered by the researcher to warrant less confidence (McNemar, 1969, p. 217). Those thirty-eight questions remaining were changed if any distractor did not distinguish the high social studies achieving student from the low social studies achieving student. The result was that each form of the test, P and PSPD, had the same thirty-eight questions remaining. Table 6 indicates the type of pictures and the type of questions retained for Pilot II.

Table 6

Distribution of Types of Pictures and Questions for P and PSPD Retained for Pilot II

Number of Questions for:	P	PSPD
Scenes		
detail	7	10
inference	13	10
Activities		
detail	10	10
inference	8	8
Total	38	38

Pilot II tested the same two forms of the Picture-Text Presentation test, P and PSPD. The reliability of these forms is found in Table 7. Since both reliabilities were above the designated .60 they were accepted.

Table 7

KR-20 Reliability of P and PSPD for Pilot II

P	PSPD
0.6612	0.7661

The Validity of the Picture-Text Presentation Test

The content used for the construction of the Picture-Text Presentation test was congruent with the grade nine social studies curriculum as set down by the Alberta Department of Education. The grade nine course entitled Man, Technology and Culture in Western Societies included the countries of Spain, Switzerland and France, some aspects of which the test instrument dealt. As well, the questions concerning these countries dealt with people, methods of food production, activities and life of the people, and the geography of the country, all acceptable topics for the grade nine course. Books, listed as reference materials by the social studies curriculum, contained information similar to that provided by the test with both the written text and the pictures similar in content to that found in reference materials. Thus content validity was claimed for the test. However, with the course curriculum adopted in 1969, it was not likely that all students in any one city or even any one school dealt with all three of these countries or even one, as the choice was very wide. Due to this limiting factor, it was recognized that all students in the test sample of the pilot and main studies would not meet this or any test of its type with identical backgrounds. The pictures, written text and written questions had similar problems of vocabulary, concepts, purposes of reading, and elements of pictures to that found in social studies reference materials as discussed in Chapter II. All questions used in the Picture-Text Presentation test were given to a panel of judges of graduate students in education who took the test and who then discussed each item with the researcher in order to decide which questions were appropriate in content and format. Most of these graduate students were experienced social studies teachers. On these bases the test instrument was assumed to be valid.

The Item Analysis of Tests in Pilot II

The Test 04 program also provided an item difficulty index of each question.

Item difficulty. The index of item difficulty can theoretically range from 1.00, where all members of the group correctly answer one test item to 0.00, where no members correctly answer the test item. For a four-choice test item an index difficulty near 0.74 was considered as a desirable goal by Thorndike and Hagen (1969, p. 49). They stated that attempting to maintain an index difficulty of 0.74 allows for the possibility of getting right answers by guessing, and for the typical finding that very difficult items are often nondiscriminating as between the more and the less able students (p. 49). An item that did not discriminate between students was not desired as it would not convey information about the question. Items which had an index difficulty near 0.74 were retained for this reason. Some easier items were retained to encourage the lower achieving students while some more difficult items were retained to stimulate the higher achieving students. The majority of items fall in the range 0.500 to 0.799. Table 8 indicates the number of retained items that fall within the various index difficulties. Although verbal symbols were considered by Dale (1962) to be more abstract but not more difficult than nonverbal symbols, it can be seen from Table 8 that the P form of the test was more difficult for students than PSPD. Even at this stage of research it was evident that nonverbal symbols were slightly more difficult to read and answer questions based on them than were the combination of nonverbal symbols and verbal symbols. Because the difficulty indices range for P still had the greater number of items (twenty-eight out of thirty-eight) above 0.500 the researcher did not feel that the questions warranted change considering any change for P would also create changes in the results for PSPD.

Table 8

Index of Difficulty Distribution for
P and PSPD for Pilot II

	Number of Test Items for the Ranges of Difficulty Indices							
Test Form	0.000 to 0.299	0.300 to 0.399	0.400 to 0.499	0.500 to 0.599	0.600 to 0.699	0.700 to 0.799	0.800 to 0.899	0.900 to 0.999
PSPD	2	3	2	4	8	8	5	6
P	3	5	2	10	8	4	5	1

THE TEST INSTRUMENT

Picture-Text Presentation Test

Organization of the test. As no testing instrument was available for the type of information being sought in this study, a test was constructed and designated the Picture-Text Presentation test. A copy of the test may be found in Appendix B. In order to provide measures of the ability of students to obtain information, both detail and inferential, from presentations consisting of picture and/or written text, ten forms of the Picture-Text Presentation test were constructed as indicated below:

1. P, picture only
2. PC, picture and caption
3. PCPD, picture, caption and directed paragraph
4. PCPN, picture, caption and nondirected paragraph
5. PS, picture and sentence
6. PSPD, picture, sentence and directed paragraph
7. PSPN, picture, sentence and nondirected paragraph
8. PPD, picture and directed paragraph
9. PPN, picture and nondirected paragraph
10. W, written paragraph only

Using these ten forms enabled the researcher to assess the ability of the grade nine students to obtain information from pictures and/or print. No matter which of the above ten forms was given, all students in the test sample answered the same thirty-eight questions. It was recognized however, that the presentations containing picture only, picture and caption or picture and sentence made a greater cognitive demand on the reader. When the paragraph accompanied the picture many ideas were already expressed there, but this was not true with the P, PC or PS presentations. In these three presentations the reader had to formulate his own ideas which may or may not have been the same as those formulated in the paragraph by the author.

The Picture-Text Presentation test was actually one overall test that had ten forms as indicated above. Each form presented the data in a different way. The thirty-eight questions which were answered by all students were identical regardless of the form of the test to which the students were assigned.

Each form of the test was divided into the same six sections, each section presenting the material on a different topic. Immediately following the information on each topic was a number of questions based on this information. No attempt was made to maintain equal numbers of questions for each topic as no comparison was made between topics. The format of the forms of the Picture-Text Presentation test is diagrammed in Figure 2. Students could look back at the information presented while answering the questions.

Reading content of paragraphs. Reading demands of social studies print that were found prevalent in the literature reviewed were those associated with vocabulary, concepts and purpose of reading. Discussed below will be

<table>
<tr><th>P</th><th>PC</th><th>PCPD</th><th>PCPN</th><th>PS</th><th>PSPD</th><th>PSPN</th><th>PPD</th><th>PPN</th><th>W</th></tr>
<tr><td colspan="10">General Directions for the Picture-Text Presentation Test</td></tr>
<tr><td colspan="10">SCENES</td></tr>
<tr><td colspan="10">Topic Number 1
Spanish Farm and House
Eight Questions on the Spanish Farm and House</td></tr>
<tr><td colspan="10">Topic Number 2
A View of Lucerne, Switzerland
Five Questions on Lucerne, Switzerland</td></tr>
<tr><td colspan="10">Topic Number 3
A Village in Spain
Seven Questions About a Village in Spain</td></tr>
<tr><td colspan="10">ACTIVITIES</td></tr>
<tr><td colspan="10">Topic Number 4
A Threshing Method in Spain
Seven Questions About Farming in Spain</td></tr>
<tr><td colspan="10">Topic Number 5
A Bullfight in Spain
Three Questions About Bullfighting in Spain</td></tr>
<tr><td colspan="10">Topic Number 6
A Beach in France
Eight Questions Concerning a Beach in France</td></tr>
</table>

Figure 2

General Format of the _Picture-Text Presentation_ Test the method of their inclusion in the test instrument of this study. There was no attempt to include equal numbers of a particular reading demand as it would have provided reading material unlike the wide variety of proportions found in social studies reference materials. Although the following three reading demands overlap, in that vocabulary difficulties may in their use relay concepts that create problems, they are also distinct. Vocabulary refers to words or small phrases which may be concepts, but in this study concepts refer to the broader aspects of a pattern of writing such as cause and effect. Selected purposes for reading refers to the ability to apply the proper pattern of writing to the appropriate material in order to meet specific requirements.

Chapter II indicated that the reading demands of vocabulary posed problems for the reader of social studies material. Some examples of specialized vocabulary terms that needed literal interpretations are found in Table 9. These examples were representative of possible problems but as noted above were not systematically built into the test to avoid creating an artificial style unlike that found in social studies textbooks. Figurative language was another aspect of vocabulary that created special reading demands. Some examples of the figurative language that were built into the Picture-Text Presentation test are indicated in Table 10. Although they were not found only within social studies material, the inclusion of such in social studies material added

Table 9

Specialized Terms Needing Literal Interpretation in the Picture-Text Presentation Test

Specialized Term	Placement in Test		
	Questions	Paragraph	Topic
west coast marine	x		1
standard of living	x		1
crop rotation	x	x	1
grid	x		3
subsistence farming	x		4
commissioned farming	x		4
hopper	x		4

x = found in

Table 10

Figurative Language in the Picture-Text Presentation Test

Example	Placement in Test	
	Paragraph	Topic
like that used by the Romans	x	1
river cuts a blue path	x	2
strikes you	x	2
creeps up the side	x	3
brave toreadors as graceful as dancers	x	5

x = found in

further reading demands that had to be faced. As well as the figurative and literal language interpretations that had to take place in the reading of social studies material, abstract terms created additional problems for the reader. These terms were often those outside the experience of the students. Some examples in the present study were words like "crop rotation" and "threshing" that appeared in the paragraphs and questions of topics one and four. If terms such as these were not fully explained as was the case in this study, and if the students did not have prior knowledge of them, problems arose when students encountered them in their reading. Vocabulary terms that are indefinite provided additional demands. Table 11 indicates some of these indefinite vocabulary terms that

Table 11

Indefinite Vocabulary Terms of the Picture-Text Presentation Test

Indefinite Term	Placement in Test		
	Questions	Paragraph	Topic
most	x	x	all 6
some		x	1 + 3
often		x	1 + 5
about		x	1
hordes		x	2
many		x	4 + 6
so small		x	4
several		x	4 + 5

x = found in

have been built into the test but again, not systematically incorporated. Because the student must place the limits or bounds on the term this obviously created problems when 120 students needed to do the same and yet come up with one answer. Further vocabulary demands were encountered when reading material that included spatial terms, both definite and indefinite. Some that were built randomly into the test instrument of this study are indicated in Table 12. Students having difficulties with spatial terms

Table 12

Spatial Vocabulary Terms of the *Picture-Text Presentation* Test

Spatial Term	Placement in Test		
	Questions	Paragraphs	Topic
nearby		x	1
midway		x	2
middle	x		2
center		x	3
enclosing		x	3
surrounding	x		3
outside	x		3
near	x		3
north		x	6
top		x	6
by	x		6

x = found in

would find difficulties with the social studies material of this type.

Other vocabulary reading demands existed but were not highlighted by this study. Some were abbreviations, localized words, emotionally charged words and technical words.

A second major area that created added reading demands in social studies material was that concerning the concepts found in such writings. The literature pointed out that a pattern often found in social studies writing was cause and effect. Often the cause and effect was not stated directly but had to be supplied by the student as he read. Some examples of the indirect cause and effect writing that were included in this study are indicated in Table 13. Their random placement again

Table 13

Cause and Effect as Found in the Picture-Text Presentation Test

Concept	Placement in Test: Questions	Placement in Test: Topic
standard of living	x	1
pollution	x	2
erosion	x	6

x = found in

indicates the need to avoid artificiality in the test. Another demand encountered when reading social studies material was that of comparisons that needed to be made between objects, with which the student might be unfamiliar. Comparisons were required when reading the material of the Picture-Text Presentation test. Some examples of such are indicated in Table 14. All concepts were

Table 14

Comparisons as Found in the Picture-Text Presentation Test

Comparisons	Placement in Test		
	Questions	Paragraph	Topic
like that used thousands of years ago		x	1 + 4
cars in France and here	x		6
beaches in France much the same as in Florida		x	6

x = found in

removed from most of the students' direct experiential background. Since all topics referred to Spain, France and Switzerland and most students had not travelled widely in Europe, their main experience with such topics was second hand through books, magazines or films. The concepts presented in the Picture-Text Presentation test included some of the reading demands as mentioned in Chapter II.

The third major area of reading demands that were highlighted in this study was that connected with concentrated demands for using selected purposes when reading. A student's purpose for reading changes, depending upon his goal or requirements. In this study the students were required to find details that were presented in the information of the test. As well, they were required, using the details they found, to establish cause and effect relationships and to make comparisons. Those reading demands of social studies print highlighted in this study concerned vocabulary, concepts and concentrated use of selected purposes of reading.

Reading social studies pictures. Reading demands were also found to exist in social studies pictures. Three areas of demands that were built randomly into the Picture-Text Presentation test concerned elements of pictures, concepts and sequence.

Pictures contained unfamiliar elements. Depth and size perception and colour were elements of pictures that needed to be read. Nine of the ten forms of the Picture-Text Presentation test contain pictures. In order to abstract information from the pictures the students needed to have abilities to understand depth and size perception. In order to "feature" a particular aspect of a picture, pictures were chosen with various distance ranges which are indicated in Table 15. For each distance range two pictures were presented. Students therefore needed to meet the size perception demands of the pictures as it was built into the test. Since the pictures were in colour, colour played a role. The exposure illumination was kept constant in that all slides in illuminated form were within one f-stop of each other. In other words there was little variation in the illuminated exposure. As well, the picture developer maintained consistent colour when developing the fifty-four prints of each slide.

Table 15

Distance Ranges for Featured Aspect of Pictures in the Picture-Text Presentation Test

Picture	Distance from Photographer		
	Close	Mid	Far
Scene	Spanish farm	Bridge in Lucerne	Coastal village
Activity	Threshing grain	Bullfighting	Beach life

Concepts were the second major area of reading demands of pictures but these concepts of pictures were not in written form. Any concept that was produced by the student from a picture was one that he had provided for himself, using only a picture supplied by a photographer. The reader needed to formulate his own concepts, a task harder than reading the concepts already formulated by someone else. The comment by Travers and Alvarado "what one sees, what one recognizes and what one can report, are not always the same (1970, p. 54)" was fitting here. Although the students viewing the picture had the same picture, it did not mean that all saw the same things nor were they all able to formulate the same concepts. In this way concepts as a reading demand were incorporated randomly into the Picture-Text Presentation test.

The last major area of reading demands concerning the pictures of the test was sequence. No pattern is taught or learned when viewing a picture. Since pictures were encountered by ninety percent of the students taking the test, this demand was built in automatically. Students had to determine themselves what to look at or for and the sequence of looking at that which was found in the pictures.

The particular reading demands of pictures that were built into the Picture-Text Presentation test concerned these elements of pictures, concepts and sequence.

Reading combined pictures and print. The literature reviewed pointed out that as well as reading demands existing separately for pictures and print there also existed reading demands when they were combined.

A student who encountered both print and pictures in his social studies reading needed to meet the reading demands of each plus the added demand of moving from print to pictures and back to print again. The Picture-Text Presentation test required eighty percent of the students taking the test to read material that contained both pictures and print. Also built into the Picture-Text Presentation test for thirty percent of the students were references to the pictures in the written text. These thirty percent of the students were given paragraphs that indicated a particular aspect being discussed in the paragraph could be viewed in the picture.

The pictures, present in nine of the ten forms of the test, always appeared at the top of the page. If words were used on the form of the test as well, the words always followed the picture. It was recognized that the textbooks have pictures in other places than at the top of a page, but in order not to add extraneous systematic variance the picture was left in a constant position at the top of the page.

Procedures used to equate the reading difficulty of the various presentations of information. In order to determine that the various presentations which contained a written paragraph were of equal reading difficulty the

Flesch Readability Formula was applied to each of the six topics. The readability level of each written passage is recorded in Table 16.

Table 16

Readability Level of the Written Passages of the Six Topics

	Topic 1	Topic 2	Topic 3	Topic 4	Topic 5	Topic 6
Grade Level	6.899	6.981	6.913	6.965	6.958	6.813
No. words in average sentence	16.3	14.9	14.8	16.0	13.0	15.1
Average no. affixes per 100 words	11.0	14.5	13.5	13.5	16.0	12.5
Average personal references per 100 words	3.5	3.0	3.0	4.5	4.0	4.0
No. of words	194	192	191	19[illegible]	191	194

As well, the words used in constructing the written text, captions, sentences and the questions were checked against available word lists of Thorndike (1921), Dale (1960), Stothers, Jackson and Minkler (1949) to be sure that all words used were found in or before the grade eight level. Thus the words used should have been familiar to grade nine students.

The captions and sentences were kept consistent in length and writing style, for all six topics. Since each of the subtests that contained the complete written text contained each of the six topics, they were identical in readability according to the formula and vocabulary level.

Table 16 reveals the number of words per topic for the paragraph forms of the test. These forms, PCPN, PCPD, PSPN, PSPD, PPN, PPD and W, contained between 1100 and 1200 words. Thus, again it must be emphasized that these forms which presented ideas already formulated were probably easier to read than the forms that contained little or no written text. However, the additional process of moving from print to picture and back again was recognized as a difficult reading task for the forms containing both print and picture.

Characteristics of test items. A test of sufficient length to provide a definite distribution of student achievement scores was desired, yet short enough to prevent student fatigue and boredom. Thirty-eight questions, that were tested in Pilot II and appeared to meet this desire, were used in the final draft of the test.

The items were designed to test the ability of students to obtain information which was considered as inferential or pointing to details. These two were considered important skills in obtaining meaning from paragraphs and were similar to Wallen's categories of interpretation and recall (1972, p. 307 and p. 337).

The Picture-Text Presentation test used multiple choice, objective type questions. An objective type of test was constructed to facilitate ease and objectivity in scoring and statistical analysis (Thorndike and Hagen, 1969, p. 72).

An attempt was made to follow established procedures in test construction as outlined by Thorndike and Hagen (1969) and Travers (1964). The stem of each item formulated a clear, concise problem. Item responses were briefly stated and of equal length. The negative form was not used but in one question in asking for the "least" likely, the word "least" was capitalized so that students would be aware of its presence (Thorndike and Hagen, 1969, p. 70). Care was taken so that no additional cues were provided in other sections of the test, by using identical words in the response to that found in the stem or providing grammatical cues. Four answer choices were used to control excessive guessing (Thorndike and Hagen, 1969, p. 65). Every distractor or alternate answer used was a plausible alternative to the correct answer in the sense that some students selected it. Questions were chosen for the final draft of the test in which the distractors were selected more often by students scoring at a lower level on the test as a whole.

Questions were avoided in which the higher achieving students saw a logical possibility in a distractor which led them to a wrong answer. A more detailed discussion of the criteria used in selecting items for the final draft of the test was presented in the section of this chapter dealing with the pilot study.

SUMMARY

This chapter presented material concerned with the pilot studies and the main test instrument. The tests used in the pilot studies enabled the researcher to obtain the final draft of the *Picture-Text Presentation* test. The reading content of paragraphs, pictures and the demands of reading combined pictures and print that were built into the test instrument, were explained.

Chapter IV

THE EXPERIMENTAL DESIGN

INTRODUCTION

This chapter describes the student sample, the Davis Reading Test which was used to provide a measure of one variable and the design of the study. An account of data collection and its treatment precedes the summary.

THE STUDENT SAMPLE

Selection of the Student Sample

The total population of grade nine students registered in the Edmonton Public School system in March, 1974 was 4,902. From this number a sample population of 422 students was assigned to the researcher by the Director of Research and Evaluation of the Edmonton Public School Board (E.P.S.B.) for the pilot testing and for the matching of students for sex and reading achievement for the main study.

This sample population of grade nine students attended five schools widely separated from each other, had socioeconomic backgrounds that were found in all seven classes of Blishen's occupational class scale (Blishen, 1961, p. 481-484), and were considered representative of the total population of grade nines in the

E.P.S.B. by their Director of Research and Evaluation.

From the sample population of 422 students 148 were given the P (picture) and PSPD (picture, sentence and directed paragraph) forms of the Picture-Text Presentation test in the pilot studies and the remaining 274 students were retained for the main study. The 148 students for the pilot studies were selected by the teachers of three schools as being representative of their classes in social studies. These three schools chosen for the pilot studies were selected by the researcher from the available five because they were widely distributed in the city. These students attended nine different classrooms in the three schools. From four schools, the 274 students for the main study, none of whom was used in the pilot studies were first designated as high reading achievers (HRA), average reading achievers (ARA), and low reading achievers (LRA) on the basis of their scores on the Level of Comprehension section of the Davis Reading Test. They were then matched for sex within the three reading achievement groups which were representative of the sample population. A random selection was made from these matched students to derive a test sample of 120 students consisting of twenty male and twenty female HRA, twenty male and twenty female ARA and twenty male and twenty female LRA.

The Davis Reading Test was administered in March, 1974 to the 4,902 grade nines by their teachers, scored by the computer and percentiles derived. The resulting data were obtained from the files of the Edmonton Public School Board in April of the same year. Using student percentiles based on the Edmonton city norms (see Appendix A), the 274 students were divided into three groups on the basis of their scores on the Level of Comprehension section of the Davis Reading Test. Those students who scored at the 68 percentile and above were designated HRA; those between the 38th and 67th percentiles were ARA; those at the 37th percentile and below were LRA. Table 17 indicates the distribution of the 274 students for the three reading categories. It is evident from Table 17 that the three groups were not equal in numbers. There were more female HRA than male HRA and fewer female LRA then male LRA which indicates females were better able

Table 17

Distribution of the 274 Students in Each Category of Reading Achievement on the Davis Reading Test

Students by sex	HRA	ARA	LRA	Total
Male	45	40	50	135
Female	65	42	32	139
Total	110	82	82	274

to score higher on the comprehension section of this test. Table 18 indicates the achievement level of each percentile on the Level of Comprehension questions of the Davis Reading Test.

Table 18

Achievement Level of Each Reading Category for Each Percentile for the Davis Reading Test
(Comprehension Questions 1-40)

Reading Category	Percentile	Raw Score Interval	Nos. of Students	Percentage Score
HRA	68 to 100	30 to 40	1709	75 to 100
ARA	38 to 67	24 to 29	1499	60 to 74
LRA	0 to 37	0 to 23	1694	0 to 59

The decision to use three student groups as indicated above was made after consideration of several alternatives available, each with a varying degree of appeal. They were:

1. To put one student in each of the sixty student observation cells (sex x reading achievement x form of the Picture-Text Presentation test where a 2 x 3 x 10 factorial design was employed). To do this would require only ten female LRA and thus permit the choice of students according to the distribution of the normal curve to derive the HRA, ARA and LRA. This option was rejected

because a normal curve distribution cannot be expected with only 4902 students and because the option limited the information that could be received from statistical procedures. It would eliminate, for example, any possibility of studying possible interaction among sex, reading achievement and the forms of the Picture-Text Presentation test.

2. To use a proportional number of males and females in reading achievement categories according to their performance on the Davis Reading Test. A larger number of students than 274 would have been needed for testing to identify adequate numbers for each category and because this number was unreasonable to request from the officials of the E.P.S.B. this option was rejected.

3. To use approximately the top, middle and bottom thirds of the student percentile ranges reflecting their scores on the Davis Reading Test for the student sample to be tested. This option did not require obtaining more students for the main study, did not limit the information from statistical procedures and did not disregard possible important sex factors. Therefore this option was selected.

First by matching on sex and reading achievement and then by drawing a random sampling of these matched groups a test sample of 120 students who were each given one form of the Picture-Text Presentation test as described under the section Design of the Study was produced.

A factor that was considered of possible importance to the study was intelligence. However, the data in the cumulative record cards of the students was inconsistent and/or unavailable. The last available intelligence quotient score for most students was from a group test administered three years previously. Since student reading scores correlate highly with intelligence scores (Gray and Reese, 1957, p. 95), it was thought that the control of reading achievement would give control of intelligence if a group reading test was given to all 274 students. Neither school personnel nor the researcher could give individual intelligence tests.

Another factor that has unknown influence upon the results of the study was teaching style and procedures. Specific teaching of pictures in previous grades to any students would influence the results of this study, but remained an unknown factor.

TESTING INSTRUMENT: THE DAVIS READING TEST

Davis Reading Test

The Davis Reading Test was designed to assess the general reading ability of individuals or groups. The test was designed to measure various reading skills such as finding answers to questions, obtaining the central thought, making inferences, and following the structure of a passage.

The reliability coefficient of the Davis Reading Test, as presented in the manual of the Davis Reading Test, grade nine administration was .84. The reliability coefficient was based on the administration of two forms of the test with two to four weeks between administrations. The number of grade nine students tested was 5,292 who were from fifty-two schools that existed in different geographic regions of the United States.

The manual discussed the content validity and predictive validity of the Davis Reading Test. The authors claimed that "factorial studies have provided evidence that tests of this kind are excellent measures of verbal ability (p. 22)." The predictive validity was given as an average of the coefficients that was .50 which the authors claimed was an "over-all indication . . . that the test provides useful prediction of students' later achievement (p. 22)."

The review of the Davis Reading Test in Buros upheld the view by the authors in the manual concerning reliability and validity. Coffman, Director of Research and Development, Educational Testing Service, Princeton, New Jersey, explained that

> This test is an outstanding example of the test writer's art. Evidence presented in the manual indicates that the several forms meet high standards of reliability and validity and are of appropriate

> difficulty for the recommended uses (Buros, 1965, p. 787).

A similar review was given by Raygor, Coordinator, Reading and Study Skills Center, University of Minnesota, Minneapolis, Minnesota, when he stated:

> To summarize, this seems like a very well built test by competent authors, with adequate reliability and validity, and standardized on an adequate sample of what appear to be representative students . . . (Buros, 1965, p. 787).

Both reviewers question the breakdown of the score into an accuracy and a speed score. They feel the term "speed" suggests speed of reading rather than the speed of comprehension. Coffman ends his review with ". . . it is doubtful that one can find a better reading test for use in grades 8 - 13 (Buros, 1965, p. 787)."

The Davis Reading Test was considered by the researcher on the basis of both internal and external reports to be an appropriate, reliable test to provide a measure of the students' reading achievement.

Picture-Text Presentation Test

This instrument was discussed in Chapter III and will not be discussed in this chapter.

DESIGN OF THE STUDY

A 2 x 3 x 10 factorial design was employed in this study. The subjects were matched on sex and reading achievement as measured by the Davis Reading Test. The treatment consisted of an appraisal of the students' ability to gain information from the ten forms of written and/or picture presentations. A test instrument, designated as the Picture-Text Presentation test was constructed for this purpose and was described in Chapter III.

The 274 students were designated HRA, ARA or LRA on the basis of their scores on the Level of Comprehension section of the Davis Reading Test. From the total number in each level of reading achievement ten males and ten females were randomly selected to make up twenty HRA, twenty ARA and twenty LRA. The selection was completed using a table of random numbers (Diamond, 1959).

Each of the ten forms of the test were taken by two male HRA, two female HRA, two male ARA, two female ARA, two male LRA and two female LRA, a total of twelve students. Table 19 indicates the number of students in

Table 19

Reading Achievement on the Davis Reading Test for Students Taking the Picture-Text Presentation Test

	HRA	ARA	LRA	Total
M	20	20	20	60
F	20	20	20	60
Total	40	40	40	120

each category. The form of the test was randomly assigned to each student using a table of random numbers (Diamond, 1959). The design of the study and the number of students in each cell can be seen in Figure 3. All 120 students answered the same set of thirty-eight questions. In this manner, it was possible to make comparisons between group achievement to determine which of the ten forms of presentations the students could utilize most effectively in gaining information.

Students		Ten Forms of Presentation (N per cell equals 2)										
		P	PC	PCPD	PCPN	PS	PSPD	PSPN	PPD	PPN	W	Total
M	HRA	2	2	2	2	2	2	2	2	2	2	20
	ARA	2	2	2	2	2	2	2	2	2	2	20
	LRA	2	2	2	2	2	2	2	2	2	2	20
F	HRA	2	2	2	2	2	2	2	2	2	2	20
	ARA	2	2	2	2	2	2	2	2	2	2	20
	LRA	2	2	2	2	2	2	2	2	2	2	20
Total		12	12	12	12	12	12	12	12	12	12	120

Figure 3

The Design of the Study

Since the results of the test depended on the control of variables which might affect the results, control was achieved by matching 274 students on reading ability and sex, randomly selecting 120 students from this number and randomly assigning the treatment to each student.

Student performance on the Picture-Text Presentation test will be presented in Chapter V. The students' mean score, test variance, and range of scores will be given for each of the groups of twelve students taking the ten forms of the Picture-Text Presentation test. The numbers of students and their mean score will also be given for the reading achievement groups and sex.

The data collected were subjected to a three-way analysis of variance, the condition that groups must be formed by random selection having been met when the subjects matched on sex and reading achievement were randomly selected.

DATA COLLECTION

The Picture-Text Presentation test was administered during the week of May 6, 1974. The investigator administered the tests and supervised the classes while the testing was in progress. Standardized directions and testing procedures were used in three of the four schools. In the fourth school the students were tested in the library rather than in a classroom. This may have influenced results due to interruptions of people moving in and out of the library during the testing sessions.

In order to assess the achievement of students on the ten different forms of presentations, each randomly selected student was randomly assigned one of the ten forms of the presentations to a total of twelve students. The mean achievement scores of the twelve students taking each presentation form were compared.

The sheets used for recording test answers were optical score sheets of the type which required the student to fill in a small space to designate his choice of responses from among the four possible alternatives. The students were all familiar with this type of answer sheet.

The Davis Reading Test was administered in March, 1974 by teachers of the Edmonton Public School Board. The results of this test were obtained in April, 1974 from central office files.

TREATMENT OF THE DATA

The score sheets for the Picture-Text Presentation test were scored by the IBM Optical Mark Reader at the Computing Center. The results from this test as well as the student number, reading achievement level, sex, and form of the test taken, were punched onto IBM data cards.

These cards were analyzed by means of statistical programs produced by the Division of Educational Research, Faculty of Education, University of Alberta. Student achievement scores, means, test variances, and ranges of student scores were provided.

Item Analysis

The item analysis for the final draft of the Picture-Text Presentation test was provided for by the Test 04 program and gave a description of students' performance on the Picture-Text Presentation test.

Three-Way Analysis of Variance

In order to determine whether or not there were statistically significant differences in student performance according to the form of presentation of information received on the Picture-Text Presentation test, the sex of the student, and the reading achievement of the student, a three-way analysis of variance was completed.

SUMMARY

The test sample consisted of 120 students from four schools in the Edmonton Public School Board. There were sixty boys and sixty girls present in the sample; twenty of each being HRA, ARA and LRA.

This study employed a 2 x 3 x 10 factorial design. The treatment consisted of an appraisal of the ability of

120 randomly selected grade nine students to obtain and use information from ten forms of presentations. The students were matched for reading achievement and sex and then randomly assigned to one of the ten presentations; picture only, eight picture plus written combinations, or written text only. All students were required to answer the same set of questions, some of which required detail-type answers, some of which required inference-type answers.

The data collected in May of 1974 was subjected to item analysis and three-way analysis of variance.

Chapter V

THE FINDINGS OF THE STUDY

INTRODUCTION

This chapter discusses the findings of the study under three sections. The first section presents the results of the test item analysis of the final draft of the *Picture-Text Presentation* test which was used in the main study. Included in this section are the findings about test reliability and item difficulty. The second and third sections present the performance of the students on the *Picture-Text Presentation* test, and the findings of three-way analysis of variance concerning the students' achievement on the ten forms of the *Picture-Text Presentation* test by sex and reading achievement on the *Davis Reading Test*. The results of the Tukey test for testing differences of means for the main effects where statistically significant results were found are also included as is a discussion of the interaction between reading achievement level on the *Davis Reading Test*, sex, and the achievement of students on the *Picture-Text Presentation* test.

TEST ITEM ANALYSIS OF PICTURE-TEXT PRESENTATION TEST

This section discusses the test reliability of the final draft of the Picture-Text Presentation test.

To check the results of the pilot studies concerning test reliability and item difficulty, a test analysis program, the Test 04 program, was applied to the final draft of the Picture-Text Presentation test.

The Reliability of the Final Draft of the Picture-Text Presentation Test

The reliability coefficients (KR-20) for the ten forms of the Picture-Text Presentation test are given in Table 20. The highest reliability coefficient of the ten

Table 20

Reliability Coefficients for the Ten Forms of the Picture-Text Presentation Test

Test Form		Reliability Coefficient (KR-20)
1	P	.7172
2	PC	.2318
3	PCPD	.7786
4	PCPN	.6198
5	PS	.8974
6	PSPD	.8069
7	PSPN	.8137
8	PPD	.7745
9	PPN	.6062
10	W	.8869

forms was 0.8974 for PS and the lowest was 0.2318 for PC. All reliability coefficients, other than that for PC, were above .60 and were considered acceptable by the researcher (Chapter III, page 58). However, the reliability coefficient for PC was not considered by this researcher to be acceptable. Since the sample used in the study was small, twelve per form, and this was combined with a low reliability coefficient, the results for PC could only indicate or detect gross differences in student performance or information available (Ferguson, 1966, p. 373). The rejection of the PC reliability coefficient as acceptable does not mean the rejection of the other nine forms of the Picture-Text Presentation test, however. The forms that included the caption under the picture, PC, PCPD, PCPN, had lower reliability coefficients than did those forms that included a sentence beneath the picture, PS, PSPD, PSPN. The captions had no predicates to supply the action as did the sentences but whether the students read the captions and comprehended less because predicates were not included is not known.

The reliability coefficients of the P and PSPD forms used in Pilot II were compared with the reliability coefficients of the same forms in the main study in Table 21. The stability of the two forms and their improved reliability is evident. As explained in Chapter III P and PSPD test forms were used in the pilots because they represented the extremes in terms of availability of information. The PC test form mid-way between the extremes, P and PSPD test forms, was not included because of the unreasonable number of students required to pilot test each of the ten test forms and the inordinate time the testing would have taken.

Table 21

Reliability Coefficients of P and PSPD Forms of the Picture-Text Presentation Test for Pilot II and Main Study

	Reliability Coefficients (KR-20)	
Test Form	Pilot II	Main Study
P	.6612	.7172
PSPD	.7661	.8069

The Difficulty of the Final Draft of the Picture-Text Presentation Test

Table 22 provides the breakdown of test items in terms of the levels of student difficulty for the ten forms of the Picture-Text Presentation test. The majority of the items presented to the 120 students in the final draft of the ten forms of the Picture-Text Presentation test were near the 0.74 item difficulty index set down by

Table 22

Distribution of Test Items for the Ten Forms of the *Picture-Text Presentation* Test According to Indices of Difficulty

Test Form	Range of Difficulty Indices of Test Items										
	.000 to .199	.200 to .299	.300 to .399	.400 to .499	.500 to .599	.600 to .699	.700 to .799	.800 to .899	.900 to .999	1.00	Total
P	2	2	3	6	6	9	4	4	1	1	38
PC	2	0	3	6	6	2	4	5	6	4	38
PCPD	0	0	5	1	7	5	3	10	3	4	38
PCPN	0	1	3	2	4	5	5	8	7	3	38
PS	0	0	3	3	11	5	6	4	5	1	38
PSPD	0	0	1	4	9	2	7	7	6	2	38
PSPN	0	0	3	4	6	4	5	4	8	4	38
PPD	0	1	2	4	5	2	8	6	8	2	38
PPN	2	3	0	4	5	7	3	6	6	2	38
W	3	1	1	5	5	4	5	4	8	2	38
Total	9	8	24	39	64	45	50	58	58	25	380

Thorndike and Hagen (1969, p. 49) as being the desirable difficulty level for a four-choice item and considered in this study to be a desired range indicator. Two hundred and seventy-five of the total three hundred and eighty questions for all ten forms of the Picture-Text Presentation test were between .500 and .999 with approximately one hundred and ten questions on either side of the 0.74 index (between .500 and .699 and between .800 and .999). Student performance showed that there were about six times more easy items on the PSPD test form (difficulty indices above .500) than difficult items but only twice as many easy items for P. Student performance on the Picture-Text Presentation test also showed that forms P, PC, PPN, and W, contained more items found difficult by students (difficulty indices less than .500) than the other forms with P having the greatest number of difficult items.

ACHIEVEMENT OF GRADE NINE STUDENTS ON THE TEN FORMS OF THE PICTURE-TEXT PRESENTATION TEST

Table 23 reports the number of students taking each form, the test mean, the test variance, the standard deviation, the range of student scores and the reliability coefficient (KR-20) for each of the ten forms of the Picture-Text Presentation test. Of the possible total student score of thirty-eight, the lowest mean score was 21.917 for the P form while the highest mean was 27.583

Table 23

Student Performance and Reliability Coefficient for the Ten Forms of the Picture-Text Presentation Test

Test Form	No. of Students	Test Means*	Test Variance	Standard Deviation	Range of Scores	Reliability Coefficient (KR-20)
P	12	21.917	22.08	4.70	14 (14 to 28)	.7172
PC	12	25.083	7.91	2.81	10 (18 to 28)	.2318
PCPD	12	26.583	22.24	4.72	13 (21 to 34)	.7786
PCPN	12	27.583	13.91	3.73	14 (18 to 32)	.6198
PS	12	24.917	41.08	6.41	23 (9 to 32)	.8974
PSPD	12	26.667	25.39	5.04	15 (19 to 34)	.8069
PSPN	12	26.917	24.08	4.91	19 (17 to 36)	.8137
PPD	12	26.833	19.64	4.43	19 (16 to 35)	.7745
PPN	12	24.667	14.22	3.77	13 (17 to 30)	.6062
W	12	25.000	33.50	5.79	23 (8 to 31)	.8869

*Total Possible Score = 38

for the PCPN form, indicating that the most difficult form of the test was P. As was seen in Table 22, page 99, the P form had the greatest number of difficult items. It must be noted that although the P form had more difficult items than any other form according to student performance it still had more easy than difficult items and the test mean for P was 21.917 which indicated the average student mark on this form was still near sixty percent correct.

The test means for all ten forms of the Picture-Text Presentation test indicated the average student mark on the form. As given above, the lowest mean was 21.917 or about sixty percent correct for P while the highest was 27.583 or about seventy-two percent correct for PCPN. Students' achievement on all forms of the test was near the two-thirds percent correct level. All one hundred and twenty students completed the test answering all questions on the test.

Table 24 presents an analysis of student performance on each of the thirty-eight items for each form of the test. The total possible number for each cell would be twelve indicating all students answered the item correctly. Table 25 presents only those test items that were found easier by the students (student performance at ninety-one percent or higher) while Table 26 presents the test items found harder by the students (student performance at twenty-five percent or less). An analysis

Table 24

Analysis of Test Item Difficulty by Test Form

6

Test Form	Test Item 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
P	7*	8	3	7	5	3	2	5	8	11	5	8	8	9	4	7	10	9	4
PC	10	5	4	2	9	5	6	5	10	8	4	7	5	10	6	12	11	9	6
PCPN	12	8	4	4	11	7	11	3	12	11	10	9	8	9	10	9	8	4	9
PCPD	9	4	6	4	9	10	10	4	11	10	6	8	7	9	10	10	12	5	7
PS	9	6	4	6	7	4	6	8	10	7	8	6	5	8	9	9	10	7	10
PSPN	11	5	5	4	11	6	12	4	12	12	9	9	11	10	7	8	10	10	10
PSPD	11	5	7	6	9	9	8	4	12	10	5	7	9	11	7	10	11	6	8
PPN	8	6	5	0	11	9	7	3	10	8	8	8	6	11	10	11	12	5	5
PPD	10	6	6	5	10	6	9	3	11	11	9	5	5	8	10	12	12	6	11
W	11	4	8	2	11	7	12	5	12	10	9	8	6	9	9	10	11	8	5
Total (out of 120)	90	57	52	40	93	66	83	44	108	98	73	75	70	94	82	98	107	69	75

*Total possible number per test item = 12

Table 24 (continued)

Test Form	Test Item 20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
P	12*	10	10	7	1	4	5	8	8	8	10	10	5	5	5	8	6	10	9
PC	12	11	11	9	4	5	7	5	11	11	12	12	7	9	2	8	10	11	10
PCPN	9	11	11	7	6	7	6	5	7	6	11	11	12	10	4	10	10	10	10
PCPD	8	11	12	12	4	7	10	8	8	6	10	12	11	10	4	8	10	10	7
PS	11	7	11	9	5	5	8	7	9	11	11	12	6	10	4	7	9	11	8
PSPN	11	9	11	12	4	5	9	6	9	7	11	11	11	6	5	8	8	8	6
PSPD	10	9	11	10	5	6	9	9	6	6	10	11	11	10	5	10	9	12	6
PPN	9	8	12	11	2	3	6	7	9	5	11	10	11	8	3	10	10	10	8
PPD	9	11	11	9	4	9	9	8	7	4	11	11	11	10	5	9	9	10	10
W	5	10	11	11	3	2	9	5	9	6	7	11	11	7	2	8	10	11	5
Total (out of 120)	96	97	111	97	38	53	78	68	83	70	104	111	96	85	39	86	91	93	79

*Total possible number per test item = 12

Table 25

Analysis of Test Items Considered Easier* from Student Performance by Test Form

Test Form	Test Item																			
	1	5	7	9	10	13	14	16	17	19	20	21	22	23	28	29	30	31	32	37
P					11															
PC								12	11			11	11		11	11	12	12		11
PCPN	12	11	11	12	11							11	11				11	11	12	
PCPD				11					12			11	12	12				12	11	
PS											11		11			11	11	12		11
PSPN	11	11	12	12	12	11					11		11	12			11	11	11	
PSPD	11						11		11				11					11	11	
PPN		11					11	11	12				12	11			11		11	
PPD				11	11			12	12	11		11	11				11	11	11	
W	11	11	12	12					11				11	11				11	11	11

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*91 percent or higher.

Table 26

Analysis of Test Items Considered Hard* from Student Performance by Test Form

Test Form	Test Item 3	4	6	7	8	24	25	34
P	3		3	2		1		
PC		2						2
PCPN					3			
PCPD								
PS								
PSPN								
PSPD								
PPN		0			3	2	3	3
PPD					3			
W		2				3	2	2

*25 percent or lower.

of these tables indicated that there were no forms of the Picture-Text Presentation test that consistently had some questions either harder or easier. Although questions three, six and seven were found difficult by the students in form P but not by students taking other forms, there was nothing that appeared in the analyzation of these questions to indicate that they should be more difficult for the students taking form P than for students taking forms PS or PC. Questions four and thirty-four appeared harder for the students taking forms P, PPN and W. The only common element in these questions was a geography base that also appeared, however, in other questions not found hard by the students taking these three forms. The same results were found when analyzing the questions found easier by the students. No consistent pattern was indicated for any of the forms of the Picture-Text Presentation test.

To explore the influence of the type of question on the students' performance, the questions found easier or harder were analyzed. Table 27 indicates the type of question (detail or inference) for the easier questions according to student performance on the forms of the Picture-Text Presentation test. Table 28 indicates the type of question for the questions found hard by the students on the forms of the Picture-Text Presentation test. A comparison of Table 27 with Table 25 and Table

Table 27

Analysis of Types of Questions for Easier Test Items

Test Form	Test Item and Type of Question																			
	1	5	7	9	10	13	14	16	17	19	20	21	22	23	28	29	30	31	32	37
P PC PS	d	i	d	i	d	i	d	i	i	* i	i	d	d	d	* d	i	i	d	d	i
PCPN PCPD PSPN PSPD PPN PPD W	d	d	d	i	d	i	d	i	i	d	i	d	d	d	d	i	i	d	d	i

*Number 19 was d for PS and number 28 was i for W.

i = inference question
d = detail question

Table 28

Analysis of Types of Questions for Hard Test Items

	Test Item and Type of Question							
Test Form	3	4	6	7	8	24	25	34
P								
PC								
PCPN								
PCPD								
PS								
PSPN	i	i	i	d	d	i	i	i
PSPD								
PPN								
PPD								
W								

i = inference question
d = detail question

28 with Table 26 indicated no pattern for the types of questions and the form of the test. An interesting point was that for the PSPD form four of the easier questions were inference while eight were detail, an unequal proportion to the number of detail and inference questions on the test (Chapter III, p. 59). All other forms had a similar unequal proportion of types of questions on the easier items with more detail than inference questions except PC and PS which had more equal proportions of each type of question. This trend suggests that students found the detail type question easier than the inference type question on most forms of the Picture-Text Presentation test. A comparison of Table 26 with Table 28 indicated the reverse with a greater number of the hard questions being inference type. The exceptions in this comparison were forms PCPN and PPD.

A further analysis involved the total scores for each item for all forms. By using the total score for each item (Table 24) it could be seen that the questions that were most difficult were numbers two, three, four, eight, twenty-four, twenty-five and thirty-four. The easiest questions were nine, ten, sixteen, seventeen, twenty, twenty-one, twenty-two, twenty-three, thirty, thirty-one and thirty-two. Those questions that had a total student performance score of fifty percent or less were considered most difficult while those above eighty percent were considered easiest. In attempting to analyze why some questions were more difficult than others the questions, pictures and written material were reviewed to disclose information about the reading problems built into the test as explained in Chapter III. However, because the particular problems of vocabulary, concepts, purpose, distance, and so forth were not systematically built in, no conclusions can be drawn, just points to consider.

The most difficult and easiest questions were first analyzed for vocabulary.

1. In neither the easiest nor the most difficult questions did figurative language appear, but it could have played a role for the six forms that contained paragraphs.

2. Specialized vocabulary terms appear in most of the difficult questions but not in most of the easiest questions.

3. Indefinite vocabulary terms were found in both the difficult and easiest questions as were spatial vocabulary terms.

It was found that the most difficult and easiest questions, when analyzed for concepts, pointed out interesting information.

1. Cause and effect, as related to standard of living and geography concepts of climate appeared in the

more difficult questions but not in the easiest questions.

2. Neither the easiest nor the more difficult questions contained comparisons but both the paragraphs and the pictures, in unstated form, had comparisons. The role of these comparisons in student performance was not known.

Students were required to set their purpose for reading when taking the test. They had to find details and infer from the information.

1. Inference was required more often in the difficult than in the easiest questions as six of the seven difficult questions required inferences to be made while five of the eleven easiest questions required inferences.

The aspects of pictures that were built in and analyzed indicated that distance may have played some role.

1. Six of the seven more difficult questions had pictures with the major aspect of the picture close to the photographer while in only three of the eleven easiest questions were pictures "featured" at a close range.

2. The question that students found the most difficult, however, was not difficult for students taking the W test form that contained no picture. The reading problems of pictures were pointed out by this

question number three. The distance from the photographer may have played a role in that students found it harder to select from the number of details given in a close range picture than to select information from a picture taken at a greater distance from the viewer. As well, students' training in picture reading may have played a role.

The above discussion pointed out some interesting information about the reading problems of social studies written material and pictures. As well, the combinations of any of the above, for example, inference plus specialized vocabulary, could point out further reading problems. No conclusions could be drawn from the above analyses but ideas for future research were indicated.

Figure 4 presents a histogram for the Picture-Text Presentation test. Figures 5 and 6 present histograms for the twelve students taking each of the ten forms of the Picture-Text Presentation test. Figures 4, 5 and 6 indicated that the lowest student score was eight out of thirty-eight and the highest score was thirty-six out of thirty-eight. No students answered correctly all questions on any form nor did any students not answer correctly all questions on any form. Thus the test contained a wide enough achievement level to test all students in the sample adequately. Although most student scores were above the fifty percent correct level and

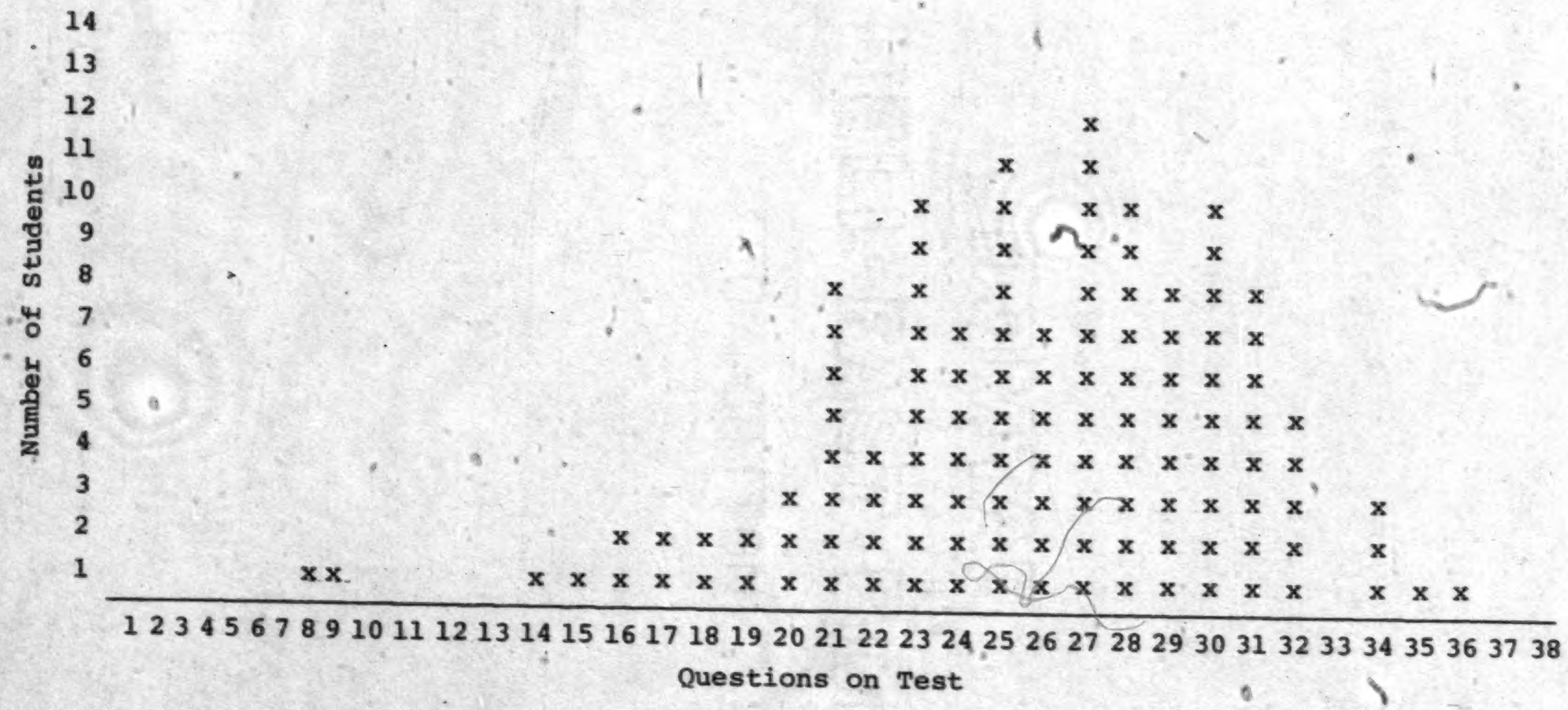

Figure 4

Students' Performance on all Forms of the Picture-Text Presentation Test

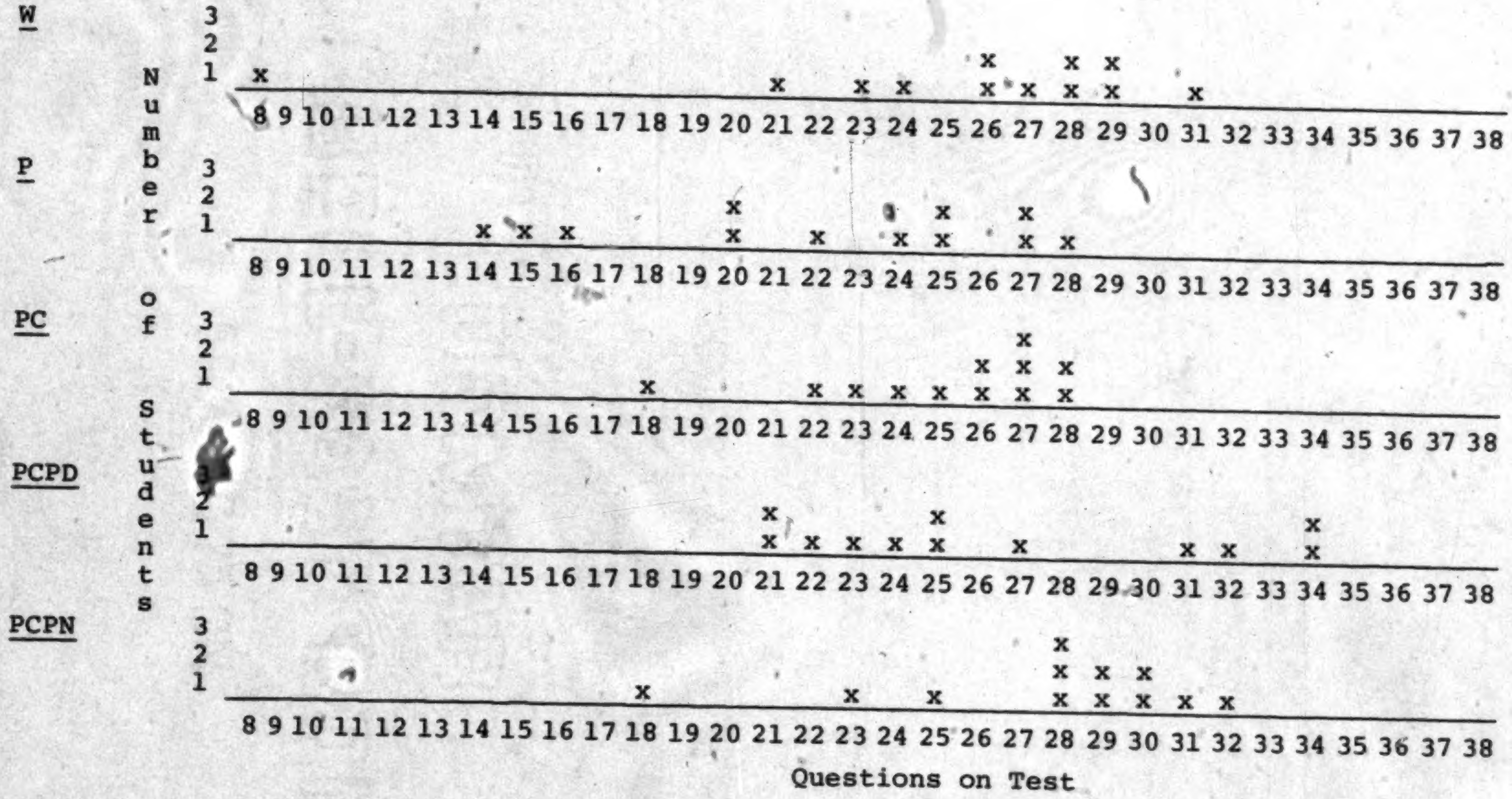

Figure 5

Students' Performance on W, P, PC, PCPD and PCPN Forms
of the Picture-Text Presentation Test

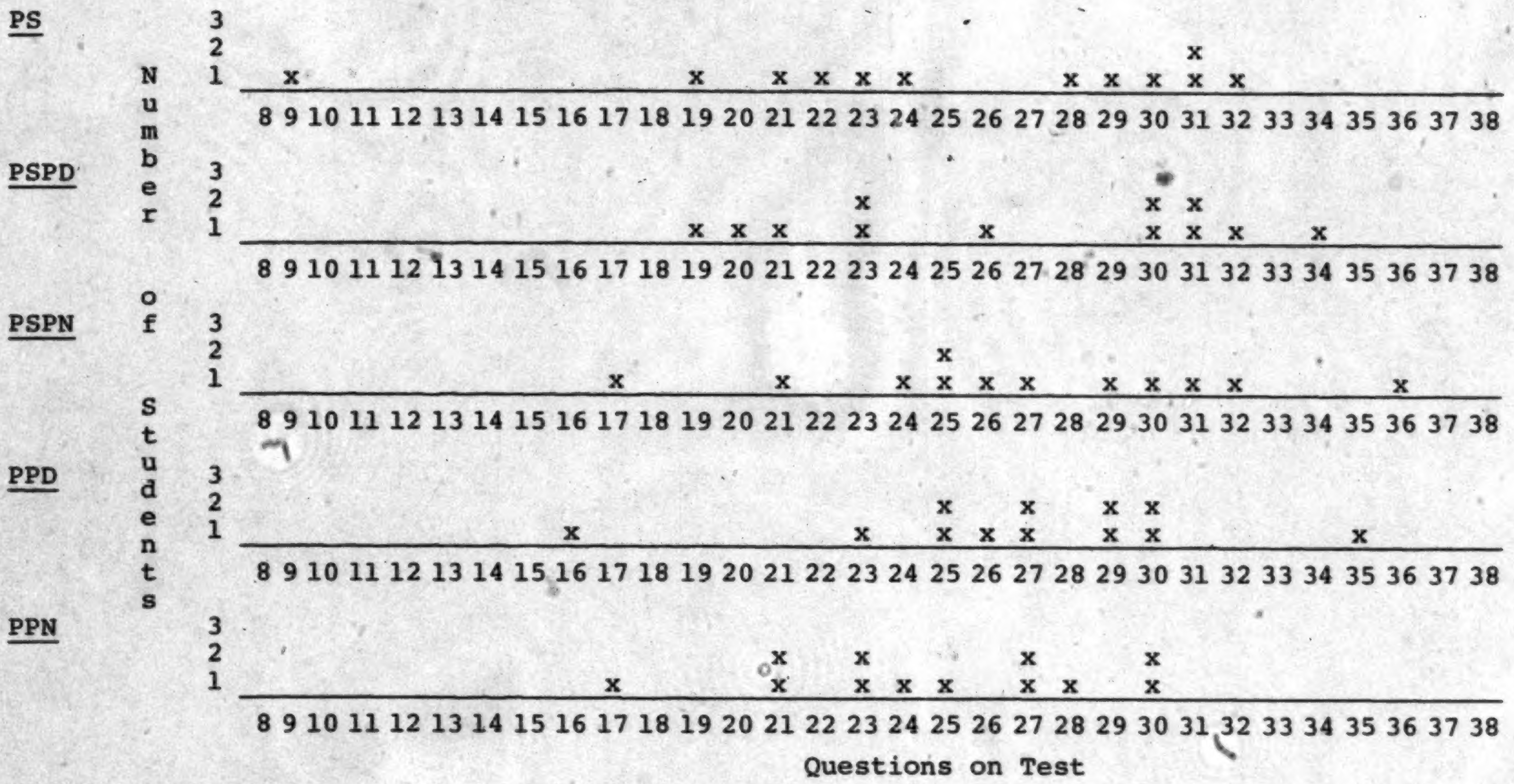

Figure 6

Students' Performance on PS, PSPD, PSPN, PPD and PPN Forms of the Picture-Text Presentation Test below the eighty percent level, one student score was twenty-one percent correct while another student score was ninety-five percent. Figure 4 indicated that the students' achievement on the Picture-Text Presentation test was skewed to the right, as the point on the test where the majority of marks fell was near sixty-six percent correct.

The histogram for PC, shown in Figure 5, pointed out the lack of spread of student scores (18 to 28). This narrow range of scores resulted in the low test variance and again in the low reliability coefficient. It was possible that these students were unfamiliar with captions and their functions, or because of previous teaching experience with the abstract form of pictures. This researcher cannot totally explain the reason for this narrow range of scores on the PC form of the test.

Figures 5 and 6 pointed out the range of scores and patterns of scores for students on the Picture-Text Presentation test. W and PS forms both had the widest range of scores, a spread of twenty-three. As indicated above, PC had the narrowest range of scores, a spread of ten. No consistency of patterning was indicated by the histograms in Figures 5 and 6. Some forms showed more than one high point thus having more than one curve, while others showed only one curve. However, few scores were below twenty out of thirty-eight and few were above thirty-two. There was a great variation of scores for the forms as indicated by their histograms. Factors concerned with students' previous learning experiences; level of ability to read print, pictures or combinations of the two; vocabulary; concepts; and purposes for reading all played a role in students' scores. As mentioned before these factors have not been systematically controlled in this study, although all but the first were represented in the study.

ANALYSIS OF VARIANCE

This section discusses the findings of the three-way analysis of variance in three parts. The first concerns the findings with regard to the students' performance on the ten forms of the Picture-Text Presentation test, the second concerns the findings of the relationship of reading achievement and sex on the students' performance on the total Picture-Text Presentation test, while the third concerns the interaction between reading achievement, sex and the forms of the Picture-Text Presentation test.

Findings Concerning Students' Achievement on the Ten Forms of the Picture-Text Presentation Test

The results of the analysis of variance, as shown in Table 29, indicate that there were statistically significant differences in the students' achievement on the ten

Table 29

Three-way Analysis of Variance for the Picture-Text Presentation Test Data

Source of Information	Sum of Squares	Degrees of Freedom	Mean Square	F-Ratio	Probability
A (form of test)	.297866	9	.330962	.2121	.04134*
B (sex)	.120000	1	.120000	.7691	.78247
AB	.429666	9	.477407	.3060	.97005
C (reading achievement)	.885516	2	.442758	.2838	.00000*
BC	.388500	2	.194250	.1245	.29524
AC	.351483	18	.195268	.1251	.25264
ABC	.434482	18	.241379	.1547	.10549
Error	936.08	60	15.60		

*Significant at the 0.05 level of confidence.

forms of the Picture-Text Presentation test. The value of F was 0.212141, which had an associated probability of 0.04134, significant at the .05 level of confidence. These findings indicated that the form of the Picture-Text Presentation test that the students were administered was statistically significant in influencing their performance on the test.

In order to determine which form of the Picture-Text Presentation test was statistically significant in difference from which other form, Tukey's procedure for comparison of the means of each form with the mean of every other form was used (Guilford, 1965, p. 276). The results demonstrate where the significant differences were found (Table 30), a difference between means equal to or larger than 5.30 being significant at the .05 level of confidence.

Only the difference between the means of Group 1, P, and Group 4, PCPN, was statistically significant. This indicated that the presence of the caption and the non-directed paragraph aided the students of this study in obtaining and using information from the picture. Of the ten forms of presentations of information used in the study, the students scored highest on the PCPN and the lowest on the P, as indicated by their group mean scores showing that the students were not as capable of using the nonverbal symbols as well as they were in using verbal

Table 30

Mean Differences for Tukey's Multiple Comparison of the Means of the Ten Forms of the Picture-Text Presentation Test

	1(P)	2(PC)	3(PCPD)	4(PCPN)	5(PS)	6(PSPD)	7(PSPN)	8(PPD)	9(PPN)	10(W)
1	.0000	3.166	4.666	5.666*	3.000	4.750	5.000	4.716	2.750	3.583
2		.0000	1.500	2.500	0.166	1.584	1.844	1.750	0.416	0.083
3			.0000	1.000	1.666	0.084	0.334	0.250	1.916	1.583
4				.0000	2.666	0.916	0.666	0.750	2.916	2.583
5					.0000	1.750	2.000	1.916	0.250	0.083
6						.0000	0.350	0.166	2.000	1.667
7							.0000	0.084	2.250	1.917
8								.0000	1.666	1.833
9									.0000	0.333
10										.0000

*significant at the .05 level of confidence symbols in combination with nonverbal symbols to gain and use information from the Picture-Text Presentation test. However, the paragraph did not direct the students' attention to the picture so what use they made of the picture was their choice. The caption below the picture in the PCPN form gave the main idea of the picture which may have helped the students' comprehension on this form. As well, it may have helped the students by not providing the distraction to them of directing them to the picture.

Differences were noted between other mean scores but were not statistically significant. The pair of test forms with the second highest difference of student mean scores was PSPN and P, again suggesting that students were aided in obtaining and using information from the nondirected paragraph combined with the sentence and picture. The differences in mean scores of students were not as marked as between the directed paragraph and the picture alone. It may be possible that in directing the students' attention to the picture, confusion rather than clarification was added because the students had to move from print to picture or vice versa and back again. Students may have read one then the other rather than going back and forth between them for verification of points, or students may have read only one. However, one must remember that the study was limited in that it did not control the extent to which students read either the picture or print when both were available. As well, the influence of previous teaching style is unknown.

The belief that students would do better on the test if their attention was directed to the picture was investigated by this study. There was no statistically significant difference in student scores between PPD and PPN, PCPD and PCPN, or PSPD and PSPN. In the latter two cases the student group mean scores on the nondirected paragraph forms were higher than the group means on the directed paragraph forms. Directing the students' attention to the picture did not significantly help the students taking those forms, nor did it significantly hinder them. Again, who read what when, and if both picture and print were read is unknown.

The students of this study had the highest performance on the PCPN, PSPN, PSPD, PPD and PCPN forms of the Picture-Text Presentation test and had the lowest performance on the P form. It was interesting to note that in comparing forms of the test where the written text was the paragraph, that in all cases except one, PPN, the W form had a mean score less than PCPD, PCPN, PSPD, PSPN and PPD.

When the form of the test with the greatest amount of verbal and nonverbal stimuli, PSPD, was used as a control in the multiple comparison procedure of Tukey, the difference in student test mean size had to be 4.46

or larger to be significant at the .05 level of confidence. The only difference that was statistically significant was that between PSPD, the control, and P. This indicated that the form of the test that presented the information in both verbal and nonverbal symbols was better able to assist the students of the study, than was the P form of the test, which consisted of picture only.

The difference between the test mean of the selected control, PSPD, and the test mean of any other form except P, all of which had some written text present, did not significantly differentiate between the ability of the students of this study in obtaining and using information. However, the means were all above the mean for P.

The indication from these findings are that students rely on a verbal symbol to secure information. Although a statistically significant difference only appeared between the P and PCPN for the paired means, and between P and PSPD for means versus the control mean, the fact was that all means were larger than that of P, the picture. The students of this study needed the additional written text in some form. They did not have the adequate skills to gain the information solely from a picture.

Null hypothesis One which stated that there were not statistically significant differences in achievement between groups given the ten forms of information was rejected in part. There were statistically significant differences present.

Summary. The three-way analysis of variance revealed that as a group, the students who were given the PSPD and PCPN forms of the Picture-Text Presentation test scored significantly higher statistically than those students who were given the P form of the test. There were no statistically significant differences between any of the other forms of the test when paired or placed versus the control group mean.

The results indicated that the students of this study were not as capable of obtaining and using information from a picture alone as when it was placed in combination with a written text.

Findings Concerning the Relationship of the Variables Reading Achievement and Sex to Achievement on the Picture-Text Presentation Test

In order to control some extraneous sytematic variance the study attempted to determine whether or not the variables of reading achievement as measured by the Davis Reading Test and sex affected the students' ability to obtain and use information from the forms of the Picture-Text Presentation test.

Reading achievement as a predictor of achievement on the Picture-Text Presentation test. By means of the three-way analysis of variance the significance of reading achievement on the Davis Reading Test as a predictor of achievement on all ten forms of the Picture-Text Presentation test was determined. Table 29, page 119, indicated the results of the three-way analysis of variance in determining the statistical significance of reading achievement.

The findings, shown in Table 29, page 119, demonstrate the fact that reading achievement on the Davis Reading Test was a highly significant predictor of total student achievement on all ten forms of the Picture-Text Presentation test. The value of F was 0.283800 which had an associated probability of 0.00000. This was statistically significant at the 0.05 level of confidence. Therefore, null hypothesis 2a was rejected.

In order to determine exactly which pairs of mean differences were statistically significant, Tukey's procedure for multiple comparison was used (Guilford, 1965, p. 276). In the Tukey formula as applied to the means for each form of the presentation the differences between means had to be equal to or larger than 2.12 to be statistically significant at the 0.05 level of confidence. The means of groups are presented in Table 31 and the results of the application of the Tukey procedure are presented in Table 32.

The difference in mean score between Group 1, the LRA and Group 2, the ARA was statistically significant.

This indicated that, for the students in this study, the ARA scored significantly better than the LRA on the Picture-Text Presentation test.

Table 31

The Mean for the Achievement of Each of the Students Grouped According to Reading Achievement on the Picture-Text Presentation Test

Reading Achievement	No. of Students	Mean Score
LRA	40	22.225
ARA	40	25.750
HRA	40	28.875
Total Test	120	25.620

Table 32

Mean Differences for Tukey's Multiple Comparison of the Means for the Reading Achievement of Groups

	1	2	3
1. (LRA)	.0000	3.525*	6.650*
2. (ARA)		.0000	3.125*
3. (HRA)			.0000

*significant beyond the .05 level of confidence

The difference in mean score between Group 1, the LRA and Group 3, the HRA was statistically significant, the HRA students scoring significantly better than the

LRA on the total *Picture-Text Presentation* test.

The difference in mean score between Group 2, the *ARA* and Group 3, the *HRA* was statistically significant. The *HRA* scored significantly better than the *ARA* on the total *Picture-Text Presentation* test. The *HRA* may have been better able to read the specialized, abstract and indefinite vocabulary in this study. As well, the *HRA* may be better able to cope with the purposes for reading and the combined print and pictures in the *Picture-Text Presentation* test than the *ARA* or *LRA*.

The significant findings concerning reading ability were not surprising in that the *Picture-Text Presentation* test was not too different from a reading test. It was interesting however, that the *Picture-Text Presentation* test, as a whole, contained both verbal and nonverbal symbols whereas the *Davis Reading Test* was strictly a verbal test.

Sex as a predictor of achievement on the Picture-Text Presentation test. By means of the three-way analysis of variance the significance of sex as a predictor of achievement on the *Picture-Text Presentation* test was determined. Table 29, page 119, in presenting these results indicated that there was no statistically significant difference in sex as a predictor of achievement on the total *Picture-Text Presentation* test. The mean score for the males on the test was 25.717

while the mean score for the females was 25.517. Null hypothesis 2b must be accepted.

Findings Concerning the Interaction of the Variables Reading Achievement, Sex, and Forms of the Picture-Text Presentation Test

Because statistically significant differences were found between student performance on the ten forms of the Picture-Text Presentation test and the reading achievement level on the Davis Reading Test, it was now in order to determine by a three-way analysis of variance if statistically significant interaction also existed between the three major factors of sex, reading achievement and form of the test.

The findings in Table 29, page 119, indicated that there was no statistically significant interaction between the forms of the presentation and sex, between the reading achievement of students and sex, between the forms of the presentation and reading achievement, and between the forms of the presentation, sex and reading achievement. The conjecture that LRA would best gain information from the P form of the test or from the PC or PS forms where little reading of verbal symbols was required was not upheld. No interaction was found to exist. Null hypothesis 3 must be accepted.

SUMMARY

The first section of this chapter dealt with the quality of the final draft of the Picture-Text Presentation test as a testing instrument. The criteria used to judge the quality of the instrument were reliability and difficulty. Test reliability, as determined by a Kuder-Richardson Formula-20, was at an acceptable level as all but one were above .60 (Thorndike and Hagen, 1969, p. 165). The majority of the items had difficulty indices between 0.500 and 0.999. This was desirable in that four-choice items should attempt to be near a difficulty index of 0.74 (Thorndike and Hagen, 1969, p. 49).

The second section of the chapter presented the performance of the students on the ten forms of the Picture-Text Presentation test. Histograms for each form of the test pointed out the range of student scores, patterning of scores, and the wide range of achievement on this test.

The third section of the chapter presented the findings of the analysis of variance and the interpretations of these findings. Statistically significant differences were found between the mean scores of the forms of the Picture-Text Presentation test. Application of the Tukey procedure for multiple comparisons found that statistically significant differences existed between the mean scores of the randomly selected group which took the P form of the test and the randomly selected group which took the PCPN form of the test.

When PSPD was used as the control group statistically significant differences were found between it and the P group. Thus null hypothesis 1 was rejected.

Also this section of the chapter presented the findings and interpretations concerning the relationship of reading achievement on the Davis Reading Test and sex to achievement on the Picture-Text Presentation test. By means of a three-way analysis of variance it was found that reading achievement level was a highly significant predictor of achievement on the Picture-Text Presentation test. Null hypothesis 2a was rejected. The application of the Tukey procedure of multiple comparison was used and found that each level of reading achievement was statistically significant in difference from the other levels in determining achievement on the Picture-Text Presentation test. HRA scored significantly higher than the ARA and the LRA while the ARA scored significantly higher than the LRA. These results indicated that the levels of reading as determined by a verbal symbol test, the Davis Reading Test, were statistically significant predictors of achievement on a test that contained in most forms both verbal and nonverbal symbols, the Picture-Text Presentation test.

Null hypothesis 2b was not rejected because no statistically significant differences were found between sex and achievement on the Picture-Text Presentation test.

It must be concluded that sex did not act as a predictor of achievement on the Picture-Text Presentation test.

The last major area was concerned with the interaction between the variables of reading achievement on the Davis Reading Test, sex, and forms of the Picture-Text Presentation test. The findings indicated there were no statistically significant differences between the forms of presentation and sex, between the reading achievement of the students and sex, between the forms of the presentation and reading achievement, and between the forms of the presentation, sex and reading achievement. Thus null hypothesis 3 was not rejected.

6.

Chapter VI

SUMMARY, FINDINGS, CONCLUSIONS, IMPLICATIONS AND SUGGESTIONS FOR FURTHER RESEARCH

This chapter has been organized into five sections. The first section is a general summary of the study, the second presents the findings while the third presents the conclusions. Implications of the findings for educational practice are discussed in the fourth section and suggestions for further research are outlined in the last section of the chapter.

SUMMARY OF THE STUDY

The major purpose of this investigation was to explore whether grade nine students could obtain and use information from reading pictures, written texts, and a variety of combinations of pictures and written texts in selected social studies materials.

In addition, an attempt was made to determine the nature and extent of any relationship which might exist between each of the variables of reading ability and sex and the ability to gain information from the various forms of picture and/or written text.

In order to assess the ability of students to gain information from various presentations, a test was constructed and designated as the Picture-Text Presentation test. The test consisted of ten different forms of presentation which included: a picture only; a picture and caption; a picture, caption and directed paragraph; a picture, caption and nondirected paragraph; a picture and sentence; a picture, sentence and nondirected paragraph; a picture, sentence and directed paragraph; a picture and directed paragraph; a picture and nondirected paragraph; and a written paragraph only. Each form of presentation included all of the information required to answer the same thirty-eight questions.

The Picture-Text Presentation test was administered to 120 grade nine students found within four schools of the Edmonton Public School Board. These administrations took place in May, 1974.

A group of 274 students were matched for sex and reading achievement with student performance on the Davis Reading Test used to determine reading achievement level. From the total of 274 students, twenty males and twenty females were randomly selected for each of the three levels of reading achievement, HRA, ARA, and LRA. Two males and two females for each of the HRA, ARA, and LRA were considered one of the ten groups formed; each of the ten groups was given a different form of the Picture-Text Presentation test. Twelve students took each form of the Picture-Text Presentation test.

A three-way analysis of variance was used to examine the significance of any differences between the mean scores of the groups in an attempt to explore the comparative ability of students to read the various forms of presentations of information that frequently appeared in their social studies reference materials. As well as the analysis of variance, the Tukey procedure for multiple comparisons was applied to determine where any significance existed. The three-way analysis of variance was also used to determine whether sex and reading achievement played any significant role in determining the achievement of students on the ten forms of presentation of information. As well, any possible interaction between sex, reading achievement and the forms of presentation of information was examined.

FINDINGS

Null hypotheses were formulated and tested by selected statistical procedures. A brief discussion concerning the findings and status of these hypotheses follows.

Null Hypothesis 1

There is no statistically significant difference between student achievement scores on one form of the Picture-Text Presentation test and each of the other forms:

a. *P*
b. *PPN*
c. *PPD*
d. *PC*
e. *PCPN*
f. *PCPD*
g. *PS*
h. *PSPN*
i. *PSPD*
j. *W*

A three-way analysis of variance indicated that there were significant differences in the ability of grade nine students in this study to obtain and use information from the various presentations. Students were able to obtain information better from the picture, caption and nondirected paragraph (*PCPN*) than they were from the picture only (*P*). This difference was statistically significant. As well, when the *PSPD* form was used as a control group, the differences between it and the picture only group were also statistically significant. Therefore, null hypothesis one was rejected in part.

Null Hypothesis 2

There is no statistically significant difference between student achievement scores on all ten forms of the *Picture-Text Presentation* test and their:

a. Level of Comprehension reading achievement scores as measured by the Davis Reading Test

b. sex.

This hypothesis was tested by means of a three-way analysis of variance. The findings indicated that reading achievement level was a highly significant predictor of achievement on the Picture-Text Presentation test. HRA scored significantly higher than the ARA and the LRA while the ARA scored statistically significantly higher than the LRA. Therefore, null hypothesis 2a was rejected.

The findings indicated that for the students in this study, there was no statistically significant difference between the achievement of males and females on the Picture-Text Presentation test. Sex can not be considered as a predictor of achievement on the Picture-Text Presentation test. Therefore, null hypothesis 2b was accepted.

Null Hypothesis 3

There is no statistically significant difference between student achievement scores on each form of the Picture-Text Presentation test and their:

a. Level of Comprehension reading achievement scores as measured by the Davis Reading Test

b. sex.

By means of a three-way analysis of variance, it was found that no interaction existed between any combination of the following three variables: the form of presentation, sex, and reading achievement level. The null hypothesis was not rejected.

Summary of Findings Concerning the Null Hypotheses

Three null hypotheses were tested in this study. Null hypotheses 2 and 3 each included two variables. A three-way analysis of variance was used as the statistical procedure used to test the hypotheses.

The findings indicated that statistically significant differences existed in the ability of grade nine students to obtain and use information from the different forms of verbal symbols and/or picture presentation. The students were able to obtain information better from the test forms PCPN and PSPD than they were from the picture only (P). Thus null hypothesis 1 was rejected in part.

The findings indicated that while students' reading achievement level was a statistically significant predictor of student achievement on the total Picture-Text Presentation test, sex was not found to be statistically significant as the same type of predictor. Thus, null hypothesis 2a was rejected while null hypothesis 2b was accepted.

The findings indicated that no interaction existed between sex, reading achievement and each form of the Picture-Text Presentation test. Null hypothesis 3 was accepted.

CONCLUSIONS

1. As a group, the grade nine students of this study were significantly more skillful in obtaining information from test forms PCPN and PSPD than from P alone. This led to the conclusion that students did not have sufficient development of picture reading skills in isolation. However, students were helped by the addition of the nondirected paragraph when the caption accompanied the picture. When the paragraph was directed to the picture the students were aided by the presence of the sentence with the picture. The expectation of this researcher, stated in Chapter II, that if students could not read pictures in isolation they would not be able to when combined with print must be re-examined by researchers at least in the instance of PCPN and PSPD.

2. The results of a test containing only verbal symbols such as the Davis Reading Test could be used to indicate the degree of success a student in grade nine in the Edmonton Public School System could have with social studies reference materials similar to those used in the Picture-Text Presentation test.

3. Sex could not be used to predict the degree of success a grade nine student in the Edmonton Public School System could have with social studies reference material similar to those used in the Picture-Text Presentation test.

EDUCATIONAL IMPLICATIONS

The findings and conclusions of this study suggested a number of implications for teachers, authors, supervisors and administrators, and curriculum builders.

Implications for Teaching

1. The findings of this study indicated that the grade nine students of this study were lacking in skills of picture reading and interpretation. This judgement was based on a comparison of the results of the P and PCPN and PSPD forms of the Picture-Text Presentation test with the expectations of skill development which were given in the handbook for teachers of social studies, Responding to Change. It is therefore suggested that teachers place more emphasis on the development of skills for picture reading and interpretation in the elementary and junior high social studies programs. Because picture reading and interpretation is a reading skill as well as a skill to be learned in social studies it is suggested that developmental reading classes teach picture reading and interpretation.

2. The findings concerning the fact that reading achievement as measured by a standardized test was a significant predictor of success in obtaining and using information from the Picture-Text Presentation test indicated that the poor reader did not use the skill of

reading and interpreting pictures in place of or as a counterbalance to his low reading achievement. This skill must be taught to the poor reader as it cannot be assumed that attempts to overcome a handicap of reading verbal symbols by using nonverbal symbols will succeed without first being taught skills for such reading and interpretation. The teaching of picture reading and interpretation will benefit the good reader as well who should then be able to achieve higher on a test such as the *Picture-Text Presentation* test.

3. Implications can be found for any educator who uses pictures as stimuli for any written work by the students. If students are not as capable of obtaining information from pictures as they are from verbal symbols and pictures together then asking the student to write using the picture alone as a stimulus is placing the student in a position of relying on a skill that has not been well developed. It is recommended that teachers who use this procedure should teach their students first how to obtain information from pictures, then have them write using pictures as stimuli.

Implications for the Production, Purchase, and Use of Social Studies Material

It was evident from the findings of this study that students were better able to obtain and use information from a combination of written text plus picture, PCPN and PSPD, than from the picture, P, alone. This information would appear to be of value to authors of social studies reference materials. The incorporation of the PCPN and PSPD forms into reference materials would be of benefit to the students. Pictures alone are not as beneficial. High interest low vocabulary books should not rely on pictures alone to carry the message of the author as low reading achieving students do not use pictures in isolation significantly better than print in isolation or in combination with pictures to obtain and use information. It is recommended that when teachers are purchasing reference materials that they be aware of the difference in students' ability to obtain information from these materials and thus purchase materials that include materials in the forms PCPN and/or PSPD. It is the responsibility of the educators who teach reading skills for social studies to ensure that the students are able to utilize pictures and/or written texts in their search for information.

Implications for Supervisors and Administrators

1. Those supervisors of education for social studies should provide leadership by informing teachers as to the ability of grade nine students to do statistically significantly better on the test forms PCPN and PSPD than on P. As well, leadership should be provided in implementing a program for the teaching of the reading

and interpretation of pictures as recommended by Responding to Change.

Implications for Curriculum Builders

Although the reading and interpreting of pictorial material was a part of the skills outlined in Responding to Change, a social studies handbook, it was evident that students were not as capable of using pictures alone to obtain information. This may indicate the need for the development of reading programs in junior high content areas that would teach skills that are basic to all content fields, such as the skill for the reading and interpreting of pictures in isolation as well as in combination with print. If pictures alone are to be a viable alternative to the verbal form curriculum development and implementation is important.

SUGGESTIONS FOR FURTHER RESEARCH

During the conducting of the work on this thesis a number of possibilities for further research became evident. These suggestions are indicated below:

1. The directions to the students did not indicate to the students to choose either picture or written text, or both, if they wanted to, to answer the questions. If the test was so set up that the students could choose which form they wanted an indication of preference could be obtained. Differences in students' performance could

then be tested for matched groups to explore what role preference for test form played.

2. The questions asked were half detail type and half inferential. No breakdown was made of the responses to indicate whether one type was better than another in indicating the ability of students to obtain information from pictures and various combinations of pictures and print. In further studies a subtotal for each and comparative statistics could indicate any differences that might exist due to types of questions asked.

3. Because a wide range of situations exist in the social studies reference material a study similar to this could be carried out but varying some of those situations such as:

- lower or higher grade level
- a different form of nonverbal symbol, such as graphs, tables, or maps in conjunction with written texts
- changing the directions given to the students in the paragraphs and the placement of those directions
- size of illustration used
- black and white pictures rather than colour
- arrangement of picture and print on the page to determine the influence of placement

- other types of pictures and combinations of pictures and print
- types of writing could be varied to indicate which combination of pictures and style of writing prove most useful to students. As well, systematic controls on vocabulary, concepts, and purposes in the paragraphs, and reading aspects of pictures might provide valuable information on reading problems of social studies materials.

4. Other variables besides sex and reading achievement could be controlled. Mental ability, especially nonverbal abilities; age; and teaching methods may be other predictors which would be indicators of probable success in obtaining information from pictures and/or written texts.

5. A nonverbal test could be developed so that students who were given a nonverbal form of presentation would be tested with a similar kind of test. Both verbal tests and nonverbal tests could provide data that could be compared.

CONCLUDING STATEMENT

The findings of this study indicated that the students tested were not as capable of obtaining and using information from pictures alone as they were from pictures, captions plus print that was nondirected or from pictures, sentences and print that was directed.

BIBLIOGRAPHY

SELECTED REFERENCE

Allen, J. Corporate expansion and social studies textbooks. Social Education, 1969, 33, 287-291.

Blishen, B. R., Jones, F. E., Naegele, K. D., & Porter, J. Canadian society, sociological perspectives. Toronto: Macmillan, 1961.

Bond, G. L., & Tinker, M. A. Reading difficulties: Their diagnosis and correction. New York: Appleton-Century-Crofts, 1957.

Bond, G. L., & Wagner, E. Child growth in reading. Chicago: Lyons and Carnahan, 1955.

Braun, C. Interest-loading and modality effects on textual response acquisition. Reading Research Quarterly, 1969, 4, 428-444.

Brown, C. M., Adams, W. R., & Rogers, R. How to read the social sciences. Illinois: Scott Foresman, 1968.

Brown, L. The 3d reconstruction of a 2d visual display. Journal of Genetic Psychology, 1969, 115, 257-262.

Carter, R. R. An investigation of the ability of grade six students to read selected social studies material. Unpublished master's thesis, University of Alberta, 1969.

Casper, B. M. Scope and sequence of geographical education in modern school curriculum grades four through twelve. The Journal of Geography, 1961, 60, 53-59.

Covell, H. M. Reading and the social studies. Social Education, 1957, 21, 14-16.

Culbertson, H. M., & Powers, R. D. A study of graph comprehension difficulties. AV Communication Review, 1959, 7, 97-110.

Dale, E. Audio-visual methods in teaching (Rev. ed.). New York: Holt, Rinehart, Winston, 1962.

Dale, E., & Eichholz, G. Children's knowledge of words. The Ohio State University, 1960.

Dallolio, H. C. Trends in geographic content re-emphasizes difficulties in reading. The Journal of Geography, 1959, 58, 144-149.

Davis, F. B., & Davis, C. C. Davis reading test. Manual, series 1 and 2. New York: Psychological Corporation, 1962.

Diamond, S. Information and error: An introduction to statistical analysis. New York: Basic Books, 1959.

Early, M. J. Taking stock: Secondary school reading in the 70's. Journal of Reading, 1973, 16, 364-373.

Eller, W., & Dykstra, R. Persuasion and personality: Readers' predispositions as a factor in critical reading. Elementary English, 1959, 36, 191-197, 202.

Entwisle, D. R., & Huggins, W. H. Iconic memory in children. Child Development, 1973, 44(2), 392-394.

Fay, L., Horn, T., & McCullough, C. Improving reading in the elementary social studies. Washington: National Council for the Social Studies, 1961.

Ferguson, G. A. Statistical analysis in psychology and education (2nd ed.). New York: McGraw-Hill, 1966.

Fleming, M. L., & Sheikhian, M. Influence of pictorial attributes on recognition memory. AV Communication Review, 1972, 20(4), 423-441.

Fox, D. J. The research process in education. New York: Holt, Rinehart, Winston, 1969.

Franzwa, D. Influence of meaningfulness, picture detail, and presentation mode on visual retention. AV Communication Review, 1973, 21(2), 209-223.

Gibson, E. J. Principles of perceptual learning and development. New York: Appleton-Century-Crofts, 1969.

Gibson, E. J. Learning to read. In H. Singer (Ed.), Theoretical models and processes of reading. Newark, Delaware: International Reading Association, 1970.

Gray, L., & Reese, D. Teaching children to read (2nd ed.). New York: Ronald Press, 1957.

Gray, W. S. The major aspects of reading. In H. Robinson (Ed.), Sequential development of reading abilities. Chicago: University of Chicago Press, 1960.

Guilford, J. P. Fundamental statistics in psychology and education. New York: McGraw-Hill, 1965.

Hanes, M. I. The research on how children learn from pictures. Viewpoints, 1973, 49(2), 11-20.

Harris, A. J. How to increase reading ability, a guide to developmental and remedial methods. New York: David McKay, 1961.

Herman, W. L. Reading and other language arts in social studies instruction: Persistent problems. In R. Preston (Ed.), A new look at reading in the social studies. Newark, Delaware: International Reading Association, 1969.

Hill, W. Social studies in the elementary school program. Washington: U.S. Department of Health, Education and Welfare, 1960.

Holliday, W. G. Critical analysis of pictorial research related to science education. Science Education, 1973, 57(2), 201-214.

Howell, W. J. Work-study skills of children in grades IV to VIII. Elementary School Journal, 1950, 50, 384-389.

Huss, H. Reading. In H. Carpenter (Ed.), Skill development in social studies. Washington: National Council for the Social Studies, 1963.

Hutton, D. W. Eye movements and physiological responses to visual stimuli. Viewpoints, 1973, 49(2), 29-36.

Jefferson, B. Developing competence in relating pictorial and verbal materials. Reading in the content area, a report of the fifteenth annual conference and course in reading. Pittsburgh: University of Pittsburg, 1959, 117-123.

Keir, G. The use of pictures as an aid to reading. Reading, 1970, 4(1), 6-11.

Kennamer, L. An experiment in map reading. The Journal of Geography, 1964, 63, 427-428.

Klare, G. The measurement of readability. Ames, Iowa: Iowa State University Press, 1963.

Koenke, K., & Otto, W. Contribution of pictures to children's comprehension of the main idea in reading. Psychology in the Schools, 1969, 6, 298-302.

Levie, W. H. Pictorial research: An overview. Viewpoints, 1973, 49(2), 37-45.

Levin, J. R. Inducing comprehension in poor readers: A test of a recent model. Journal of Educational Psychology, 1972, 65(1), 19-24.

Lippman, M. Z., & Shanahan, M. W. Pictorial facilitation of paired-associate learning: Implications for vocabulary training. Journal of Educational Psychology, 1973, 64(2), 216-222.

Lobeck, A. K. Things maps don't tell us: An adventure into map interpretation. New York: Macmillan, 1958.

Lumsdaine, A. A. Instruments and media of instruction. In N. L. Gage (Ed.), Handbook of research on teaching. Chicago: Rand McNally, 1963.

Mackworth, N., & Morandi, A. The gaze selects informative details within pictures. Perception and Psychophysics, 1967, 2, 547-552.

Magne, O., & Parknas, L. The learning effects of pictures. British Journal of Educational Psychology, 1963, 33, 265-275.

Martinez-Valdes, G. Comprehension of pictorial messages on corn production by literate, semiliterate and illiterate farmers in Central Veracruz, Mexico. Ann Arbor: University Microfilms, 1970.

McCune, G. H., & Pearson, N. Interpreting material presented in graphic form. In H. Carpenter (Ed.), Skill development in social studies. Washington: National Council for the Social Studies, 1963.

McNemar, Q. Psychological statistics (4th ed.). New York: John Wiley and Sons, 1969.

Michaels, M. R. Subject reading improvement: A neglected teaching responsibility. Journal of Reading, 1965-66, 9, 16-20.

Miller, W. A. Reading with and without pictures. Elementary School Journal, 1938, 38, 676-682.

Morelli, G. Pictures and competing pictures as mediators in paired-associate learning. Perceptual and Motor Skills, 1970, 30, 729-730.

Munroe, R. H., & Munroe, R. L. Reading pictures: A cross-cultural perspective. In M. P. Douglass (Ed.), Claremont reading conference. Claremont, California: Claremont Reading Conference, 1969.

Niles, O. S. Reading skills common to the content areas. In A. Robinson (Ed.), Fusing reading skills and content. Newark, Delaware: International Reading Association, 1971.

Nowell, L. Developing concepts in the social studies. Reading Teacher, 1963-64, 17, 10-15.

Preston, R. C. Newer approaches to handling the vocabulary problem. In R. Preston (Ed.), A new look at reading in the social studies. Newark, Delaware: International Reading Association, 1969.

Purvis, J. R. Visual literacy: An emerging concept. Educational Leadership, 1973, 30(8), 714-716.

Rankin, E. F., & Culhane, J. W. One picture equals 1,000 words? Reading Improvement, 1970, 7(2), 37-40.

Robinson, H. A., & Thomas, E. L. Fusing reading skills and content. Newark, Delaware: International Reading Association, 1969.

Rowe, E. J. Discrimination learning of pictures and words: A replication of picture superiority. Journal of Experimental Child Psychology, 1972, 14, 323-328.

Rudnick M. F., Porter, M. C., & Suydam, E. L. Pictorial stimulus variables. Viewpoints, 1973, 49(2), 21-28.

Rushdoony, H. A. Achievement in map-reading: An experimental study. The Elementary School Journal, 1963, 64, 70-75.

Russell, D. H., & Fea, H. R. Research on teaching reading. In N. L. Gage (Ed.), Handbook of research on teaching. Chicago: Rand McNally, 1963.

Samuel, B. R. Steps toward visual literacy. School Media Quarterly, 1973, 1(3), 205-208.

Samuels, S. J. Effects of pictures on learning to read, comprehension and attitudes. *Review of Educational Research*, 1970, *40*, 397-407.

Shepherd, D. L. *Effective reading in the social studies: A handbook for secondary teachers*. Illinois: Row, Peterson, 1960.

Singleton, C. M. Are we really improving reading in the content fields? In N. B. Smith (Ed.), *Current issues in reading*. Newark, Delaware: International Reading Association, 1969.

Smith, N. B. *Reading instruction for today's children*. Englewood Cliffs, New Jersey: Prentice-Hall, 1963.

Smith, N. B. Patterns of writing in different subject areas. *Journal of Reading*, 1964, *8*, 31-37 and 97-102.

Smith, N. B. Reading in subject matter fields. *Educational Leadership*, 1964-65, *22*, 382-385.

Snowman, J. The research on how adults learn from pictures. *Viewpoints*, 1973, *49*(2), 1-10.

Spitz, H. H., & Borland, M. D. Redundancy in line drawings of familiar objects: Effects of age and intelligence. *Cognitive Psychology*, 1971, *2*, 196-205.

Stauffer, R. Reading as cognitive functioning. In H. Singer (Ed.), *Theoretical models and processes of reading*. Newark, Delaware: International Reading Association, 1970.

Stothers, C. E., Jackson, R. W., & Minkler, F. W. *Canadian word list, grades I-VI*. Toronto: Ryerson Press and Macmillan, 1947.

Stutz, F. H. Interpreting material presented in graphic form. In H. Carpenter (Ed.), *Skills in social studies*. Washington: National Council for the Social Studies, 1954.

Thorndike, E. L. *The teacher's word book*. New York City: Teachers' College, 1921.

Thorndike, R. L. & Hagen, E. *Measurement and evaluation in psychology and education* (3rd ed.). New York: John Wiley and Sons, 1969.

Travers, R. M. W. *How to make achievement tests*. New York: Odyssey Press, 1950.

Travers, R. M. W., & Alvarado, V. The design of pictures for teaching children in elementary school. *AV Communication Review*, 1970, *18*, 47-64.

Vernon, M. D. The visual presentation of factual data. *British Journal of Educational Psychology*, 1950, *20*, 174-185.

Vernon, M. D. The value of pictorial illustration. *British Journal of Educational Psychology*, 1953, *23*, 180-187.

Vernon, M. D. The instruction of children by pictorial illustration. *British Journal of Educational Psychology*, 1954, *24*, 171-179.

Vernon, M. D. *The psychology of perception*. Harmondsworth, Middlesex: Penguin Books, 1962.

Vernon, M. D. Comments on the article by Magne and Parknas. *British Journal of Educational Psychology*, 1964, *34*, 204.

Wallen, C. J. *Competency in teaching reading.* Chicago: Science Research Association, 1972.

Wesley, E. B., & Wronski, I. P. *Teaching social studies in high school*. Boston: D. C. Heath, 1958.

Whipple, G. The language of maps and globes. *National Education Association Journal*, 1959, *48*, 63-64.

Whipple, G. Sequence in reading in the content areas. In H. M. Robinson (Ed.), *Sequential development of reading abilities*. Chicago: University of Chicago, 1960.

Winer, B. J. *Statistical principles in experimental design* (2nd ed.). New York: McGraw-Hill, 1971.

Witty, P. A. The role of reading in the social studies. *Elementary English*, 1962, *39*, 562-569.

SELECTED GRADE NINE SOCIAL STUDIES REFERENCES

Bragdon, L. T. The land and people of France. New York: Lippincott, 1960.

Creed, V. France. Michigan: Fideler Co., 1964.

Geis, D. Let's travel in France. Chicago: Children's Press, 1964.

Geis, D. Let's travel in Switzerland. Chicago: Children's Press, 1964.

Geis, D. Let's travel in Spain. Chicago: Children's Press, 1962.

Gidal, S., & Gidal, T. My village in Spain. New York: Pantheon Books, 1962.

Goldston, R. Spain. New York: Macmillan, 1967.

Kubly, H. Switzerland. New York: Time-Life Books, 1969.

Loder, D. The land and people of Spain. New York: Lippincott, 1963.

Maiques, G. M. Spain. Toronto: Fideler Co., 1970.

Pringle, P. Let's look at Switzerland. London: Museum Press, 1963.

Squire, C. Spain in pictures. New York: Sterling Pub., 1962.

Thomas, H. Spain. New York: Time Incorporated, 1962.

APPENDICES.

APPENDIX A

DAVIS READING TEST
(COMPREHENSION QUESTIONS 1-40)

Frequency Distribution for Total System (EPSB)

Raw Score Interval	Frequency	Percentile	Z-Score	Percentage
0	0	1	-4.00	.0
1	0	1	-4.00	2.5
2	0	1	-4.00	5.0
3	0	1	-4.00	7.5
4	1	1	-3.71	10.0
5	2	1	-3.35	12.5
6	3	1	-3.12	15.0
7	7	1	-2.89	17.5
8	9	1	-2.69	20.0
9	15	1	-2.51	22.5
10	21	1	-2.34	25.0
11	28	1	-2.18	27.5
12	30	2	-2.04	30.0
13	44	3	-1.91	32.5
14	57	4	-1.77	35.0
15	85	5	-1.62	37.5
16	94	7	-1.47	40.0
17	141	10	-1.31	42.5
18	129	12	-1.16	45.0
19	164	15	-1.03	47.5
20	170	19	-0.89	50.0
21	204	22	-0.76	52.5
22	248	27	-0.61	55.0
23	257	32	-0.46	57.5
24	264	38	-0.32	60.0
25	264	43	-0.18	62.5
26	225	48	-0.05	65.0
27	272	53	0.08	67.5
28	235	58	0.21	70.0
29	239	63	0.33	72.5
30	237	68	0.46	75.0
31	237	73	0.60	77.5
32	204	77	0.74	80.0
33	243	82	0.91	82.5
34	207	86	1.10	85.0
35	189	90	1.30	87.5
36	141	94	1.53	90.0
37	110	96	1.79	92.5
38	79	98	2.11	95.0
39	41	99	2.55	97.5
40	6	100	3.23	100.0

Total No. of Norm Group - 4902
Grade - nine
Z-Score - normal curve conversion of the above percentile (before rounding)
Percentage - the midpoint of the interval converted to percentage out of the total of 40
Raw Score Mean 26.21
Standard Deviation 6.689.

APPENDIX B

PICTURE-TEXT PRESENTATION TEST

P

DIRECTIONS FOR THE PICTURE-TEXT PRESENTATION

1. Do not turn this page until you are asked to do so.
2. As I read the directions aloud, follow the directions silently.
3. You should have an answer sheet on your desk. Fill in the information listed at the top of the answer sheet: name, age, male or female, date, and test name.
4. Do not make any marks on the test booklet. All marks will go on the answer sheet. You will blacken in the proper space on the answer sheet to match the answer you have chosen (a. b. c. or d.). Check to be sure that you have found the number on the answer sheet which matches the number of the question your are answering.

   EXAMPLE:

   Tom is a nine year old in grade 3. He is a

   a. dog
   b. boy
   c. girl
   d. cat
5. When you have completed the test you will have answered thirty-eight questions.
6. You are not being timed. Work quickly and carefully through the test.
7. Be sure to answer every question. There are no deductions for guessing.
8. If you have any questions please raise your hand.
9. Anyone not ready? Begin.

SCENES

Choose the best answer and blacken in the proper space on the answer sheet.

1. The climate in Spain is

   a. semi-arid
   b. tundra
   c. rain forest
   d. west coast marine

2. The geography and method of farming found in Spain are an indication of

   a. the climate of the country
   b. the type of home life of the farmer
   c. the activities of the people
   d. primitive occupations

3. The natural vegetation found here would most likely be

   a. bushland
   b. some form of sparse growth
   c. some form of lush growth
   d. nonexistent

4. In order to determine the standard of living of a Spanish farmer you need to know several things. Which of the following factors is most important?

   a. geography
   b. soil type
   c. habits
   d. ancestry

5. Spanish farmers who have animals

   a. allow them to roam the countryside
   b. use them for bargaining
   c. protect them by stone fences
   d. share them with neighbors

6. Small cultivated plots of land are a result of

   a. a low population density
   b. a low standard of living
   c. lack of desire to work large areas
   d. government ownership of land

7. In an attempt to increase productivity the farmer

   a. irrigates the land
   b. uses crop rotation methods
   c. uses fertilizers
   d. plants crops every other year

8. The type of agricultural activity in Spain is mainly

   a. grain
   b. hay
   c. wheat
   d. cattle

Choose the best answer and blacken in the proper space on the answer sheet.

9. Lucerne is a city in Switzerland that

   a. has a recent history
   b. dates back in history
   c. was founded after World War II
   d. was founded after World War I

10. The landscape surrounding Lucerne is

   a. terraced
   b. trenched
   c. mountainous
   d. plain like

11. One would assume that Lucerne

   a. lacks pollution because of concern
   b. has pollution because of its industries
   c. lacks pollution because of tourism
   d. has pollution because of the animals

12. One would expect the winter climate to be

   a. hot and dry
   b. cool and snowy
   c. hot and wet
   d. cool and dry

13. The tower found in the middle of the bridge would likely have been a

   a. party room
   b. church
   c. monastery
   d. prison cell

9

Choose the best answer and blacken in the proper space on the answer sheet.

14. The landscape would best be considered

    a. rolling hills
    b. plains
    c. mountains
    d. plateaus

15. The outside covering of the homes would best be said to be

    a. red brick
    b. brown stone
    c. grass and mud
    d. whitewashed stucco

16. The red tile roofs would likely be made of

    a. local wood carved and painted
    b. imported metal painted red
    c. baked clay
    d. colored glass

17. The wall surrounding the old city is an indication of

    a. segregation of races
    b. the village once being a prison town
    c. closed attitude of monasteries
    d. needed protection in the past

18. The layout of the village would best be described as having

    a. planned streets on a grid
    b. unplanned streets on a square
    c. planned streets not on a square
    d. unplanned streets not on a grid

19. Most dwellings would be

    a. four story apartments
    b. three story single family dwellings
    c. two story multiple dwellings
    d. one story single family dwellings

20. Near the village one would likely find

    a. winding roads through the hills
    b. resorts in the desert
    c. skiing in the hills
    d. fishing in the nearby ocean

ACTIVITIES

Choose the best answer and blacken in the proper space on the answer sheet.

21. In this method of threshing the grain, the grain is

    a. thrown onto the stoneboat by the man
    b. eaten by the mule as he circles
    c. blown into a hopper nearby
    d. left on the ground under the straw

22. The farming methods of Spain are

    a. technical
    b. highly skilled
    c. primitive
    d. practical

23. The land in Spain is

    a. arid
    b. productive
    c. moist
    d. continental

24. The geography and method of farming in Spain is an indication of the

    a. climate of the country
    b. type of life of the farmer
    c. recreational activities of the people
    d. primitive occupations found there

25. This method of threshing the grain would be associated with which type of agriculture?

    a. secondary farming
    b. subsistence farming
    c. commissioned farming
    d. mixed farming

26. The natural plant life found here would most likely be some form of

    a. lush growth
    b. scanty growth
    c. abundant growth
    d. dense growth

27. This type of farming method is an indication of lack of

    a. motivation
    b. prosperity
    c. drought
    d. purpose

Choose the best answer and blacken in the proper space on the answer sheet.

28. A bullfight is

    a. an activity of all the people
    b. a world wide activity
    c. an activity practiced by a select few
    d. a team activity for men and women

29. A bullfight is considered a

    a. dance routine of man
    b. skillful battle between man and animal
    c. day of parades
    d. day of festivity for all people

30. A high moment of the contest for the people comes when the most famous toreador

    a. throws flowers into the ring
    b. prepares to meet the bull
    c. is greeted by the other toreadors
    d. rides in an open-topped car to the bullfight

Choose the best answer and blacken in the proper space on the answer sheet.

31. What would be the best means of protection from the sun at the beach?

    a. tall buildings
    b. sand
    c. umbrellas
    d. trees

32. Most people of France, travelling to the beach at Biarritz, would

    a. take bikes
    b. fly planes
    c. hitch hike
    d. drive cars

33. Which activity would be LEAST likely to be found at the beach at Biarritz?

    a. swimming
    b. deep sea diving
    c. suntanning
    d. eating

34. The rocks sticking out of the water would be a result of

    a. erosion by water
    b. the dropping of the surrounding water
    c. the buildup of sand
    d. packed sand formations

35. Cars in France would be most similar to

    a. Pontiacs
    b. Cadillacs
    c. Vegas
    d. Mavericks

36. The road by the beach is

    a. a narrow path for walking
    b. packed with people tanning
    c. a paved street
    d. not legally used for walking

37. People of France

  a. enjoy water recreational activities
  b. prefer swimming to water skiing
  c. deep sea dive at Biarritz
  d. are not allowed to eat in swimming areas

38. The coastline at Biarritz

  a. is flat
  b. has steep cliffs
  c. is covered with evergreen trees
  d. contains vineyards

PICTURE-TEXT PRESENTATION TEST

PC

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4. Do not make any marks on the test booklet. All marks will go on the answer sheet. You will blacken in the proper space on the answer sheet to match the answer you have chosen (a. b. c. or d.). Check to be sure that you have found the number on the answer sheet which matches the number of the question your are answering.

   EXAMPLE:

   Tom is a nine year old in grade 3. He is a

   a. dog
   b. boy
   c. girl
   d. cat
5. When you have completed the test you will have answered thirty-eight questions.
6. You are not being timed. Work quickly and carefully through the test.
7. Be sure to answer every question. There are no deductions for guessing.
8. If you have any questions please raise your hand.
9. Anyone not ready? Begin.

SCENES

A farm and house in Spain

Choose the best answer and blacken in the proper space on the answer sheet.

1. The climate in Spain is
    a. semi-arid
    b. tundra
    c. rain forest
    d. west coast marine

2. The geography and method of farming found in Spain are an indication of
    a. the climate of the country
    b. the type of home life of the farmer
    c. the activities of the people
    d. primitive occupations

3. The natural vegetation found here would most likely be
    a. bushland
    b. some form of sparse growth
    c. some form of lush growth
    d. nonexistent

4. In order to determine the standard of living of a Spanish farmer you need to know several things. Which of the following factors is most important?
    a. geography
    b. soil type
    c. habits
    d. ancestry

5. Spanish farmers who have animals
    a. allow them to roam the countryside
    b. use them for bargaining
    c. protect them by stone fences
    d. share them with neighbors

6. Small cultivated plots of land are a result of
    a. a low population density
    b. a low standard of living
    c. lack of desire to work large areas
    d. government ownership of land

7. In an attempt to increase productivity the farmer

    a. irrigates the land
    b. uses crop rotation methods
    c. uses fertilizers
    d. plants crops every other year

8. The type of agricultural activity in Spain is mainly

    a. grain
    b. hay
    c. wheat
    d. cattle

An old covered bridge in Switzerland

Choose the best answer and blacken in the proper space on the answer sheet.

9. Lucerne is a city in Switzerland that

   a. has a recent history
   b. dates back in history
   c. was founded after World War II
   d. was founded after World War I

10. The landscape surrounding Lucerne is

   a. terraced
   b. trenched
   c. mountainous
   d. plain like

11. One would assume that Lucerne

   a. lacks pollution because of concern
   b. has pollution because of its industries
   c. lacks pollution because of tourism
   d. has pollution because of the animals

12. One would expect the winter climate to be

   a. hot and dry
   b. cool and snowy
   c. hot and wet
   d. cool and dry

13. The tower found in the middle of the bridge would likely have been a

   a. party room
   b. church
   c. monastery
   d. prison cell

A village in Spain

Choose the best answer and blacken in the proper space on the answer sheet.

14. The landscape would best be considered

    a. rolling hills
    b. plains
    c. mountains
    d. plateaus

15. The outside covering of the homes would best be said to be

    a. red brick
    b. brown stone
    c. grass and mud
    d. whitewashed stucco

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ACTIVITIES

A threshing method in Spain

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    a. thrown onto the stoneboat by the man
    b. eaten by the mule as he circles
    c. blown into a hopper nearby
    d. left on the ground under the straw

22. The farming methods of Spain are

    a. technical
    b. highly skilled
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    d. practical

23. The land in Spain is

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24. The geography and method of farming in Spain is an indication of the

    a. climate of the country
    b. type of life of the farmer
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25. This method of threshing the grain would be associated with which type of agriculture?

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    c. commissioned farming
    d. mixed farming

26. The natural plant life found here would most likely be some form of

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A bullfight in Spain

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    b. a world wide activity
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A beach in France

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    b. sand
    c. umbrellas
    d. trees

32. Most people of France, travelling to the beach at Biarritz, would

    a. take bikes
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    c. hitch hike
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33. Which activity would be LEAST likely to be found at the beach at Biarritz?

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    c. suntanning
    d. eating

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    c. a paved street
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a. enjoy water recreational activities
b. prefer swimming to water skiing
c. deep sea dive at Biarritz
d. are not allowed to eat in swimming areas

38. The coastline at Biarritz

a. is flat
b. has steep cliffs
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d. contains vineyards

PICTURE-TEXT PRESENTATION TEST

PCPD

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   Tom is a nine year old in grade 3. He is a

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SCENES

A farm and house in Spain

Most farms in Spain are little plots of land a few miles from a little village. Many farmers live in these little villages nearby and work the land during the day. But in some cases small farm houses are built on the individually owned plot of land. Since it is some distance from a village the farmer must be quite self-sufficient. He keeps one or two animals that he can afford in a strong enclosure. Besides having to work eroded and dry soil, he is handicapped by very primitive methods of agriculture. Often the farm is so small that it is very difficult for him to make a

living for his family.

About two-thirds of Spain's cultivated land is planted in various grains. Wheat, which is by far the most popular crop, is grown on the Meseta by difficult dry-farming techniques. Too often he must break the hard, dry crust of the earth with a crude plough like that used by the Romans thousands of years ago. These little plots of land found on a small farm like that in the picture grow many crops. He uses some form of crop rotation to help keep some fertility in the soil.

Choose the best answer and blacken in the proper space on the answer sheet.

1. The climate in Spain is

   a. semi-arid
   b. tundra
   c. rain forest
   d. west coast marine

2. The geography and method of farming found in Spain are an indication of

   a. the climate of the country
   b. the type of home life of the farmer
   c. the activities of the people
   d. primitive occupations

3. The natural vegetation found here would most likely be

   a. bushland
   b. some form of sparse growth
   c. some form of lush growth
   d. nonexistent

4. In order to determine the standard of living of a Spanish farmer you need to know several things. Which of the following factors is most important?

   a. geography
   b. soil type
   c. habits
   d. ancestry

5. Spanish farmers who have animals

   a. allow them to roam the countryside
   b. use them for bargaining
   c. protect them by stone fences
   d. share them with neighbors

6. Small cultivated plots of land are a result of

   a. a low population density
   b. a low standard of living
   c. lack of desire to work large areas
   d. government ownership of land

7. In an attempt to increase productivity the farmer

   a. irrigates the land
   b. uses crop rotation methods
   c. uses fertilizers
   d. plants crops every other year

8. The type of agricultural activity in Spain is mainly

   a. grain
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   d. cattle

An old covered bridge in Switzerland.

This old town stands on the shore of Lake Lucerne. The River Reuss cuts a blue path between its buildings. Lucerne is popular with travellers, but it has such great charm that even hordes of them do not spoil it.

Lucerne is rich with the history of man. Parts of the old city walls still stand, their towers reminding us of the uneasy past. The narrow streets in the old quarter are scarcely wide enough for a single car to pass through. The buildings are decorated with painted frescoes and hung with old-fashioned signs. The most distinctive view in all Lucerne is the old covered bridge that slants across the river. Under its peaked roof are a series of paintings on wood that show the

history of Lucerne. Swans bask in the sun and float on the river under the bridge. The large tower with its iron bar windows found midway on the bridge's path remind us of history. Another sight in Lucerne like that in the picture is the twin steeples of an old church. The cleanliness of the city strikes you as you pass through the surrounding mountains into this picturesque city with its tidy buildings.

Choose the best answer and blacken in the proper space on the answer sheet.

9. Lucerne is a city in Switzerland that

   a. has a recent history
   b. dates back in history
   c. was founded after World War II
   d. was founded after World War I

10. The landscape surrounding Lucerne is

    a. terraced
    b. trenched
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    d. plain like

11. One would assume that Lucerne

    a. lacks pollution because of concern
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12. One would expect the winter climate to be

    a. hot and dry
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    d. cool and dry

13. The tower found in the middle of the bridge would likely have been a

    a. party room
    b. church
    c. monastery
    d. prison cell

A village in Spain

This town on the coast of Spain creeps up the side of the steep hills and slopes down to the sandy beaches. On the hill are the remains of the old town walls, their large stone towers reminding us of the past. The narrow streets wind between the two story high apartment-like houses that have red tile roofs. The structure of the town lacks planning and sprawls along the hill. You view a mass of red roofs on white cement walls. On the edge of town you can see the new structure of a modern hotel.

A narrow street leads you into an open square in the center of the town. Each top window has a little narrow iron balcony. The old wall, enclosing the older

part of the town is crumbling in some areas. Above the walls you can see the old red roofs indicating the lack of planning done by people years ago. Around the town are sandy hills like that in the picture covered with shrubs and dry grass. This indicates that the climate is influenced by the Mediterranean Sea. Throngs of tourists swarm the town to enjoy the many shops and beaches.

Choose the best answer and blacken in the proper space on the answer sheet.

14. The landscape would best be considered

    a. rolling hills
    b. plains
    c. mountains
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15. The outside covering of the homes would best be said to be

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d

ACTIVITIES

A threshing method in Spain

Life is hard for the farmers of Spain. They must work hard to make a living in their dry country. Besides having to work eroded and dry soil, many of them do not have very modern machinery and effective fertilizers. Too often they must break the hard, dry crust of the earth with a crude plough like that used by the Romans thousands of years ago. Threshing the grain is done by mules dragging a wooden stoneboat across the straw that is placed on the ground. This separates the grain from the straw leaving the grain on the ground. The mule has a leather headband with tassels dangling down over his forehead. This moves

as he circles while he is threshing the grain.

Often the farms are so small that it is difficult for farmers to make a living for their family. Some of them do not even own the land they farm so earn little money. Some of the land which these men farm, like that in the picture, is several miles from the town in which they live. In practically no other country does man have to work so hard to force a living from the soil.

Choose the best answer and blacken in the proper space on the answer sheet.

21. In this method of threshing the grain, the grain is

    a. thrown onto the stoneboat by the man
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Special days in Spain are days when there is a bullfight. The day often starts with a short parade. The parade is led by several men carrying large signs. These signs advertize the bullfight that will be held. The people of Spain do not look upon bullfighting as a sport. Instead, they watch a bullfight as we might an exciting play. The brave toreadors are as skillful and graceful as dancers. When a bullfighter attempts a graceful or dangerous move the crowd shouts "Ole!". At times they even throw flowers and hats into the bull ring.

The event begins with a nod of permission from the

president of the bull ring. All toreadors and horsemen parade into the large center circle of the bull ring. The crowd gets attached to its favorite toreador and cheers him as he parades by. This opening ceremony is exciting and colorful and gives the crowd its first view of today's brave toreadors. Each bullfighter is dressed in a bright embroidered jacket and oddly shaped black hat. His only tools are a red cape and a sword with a sharp point like those in the picture.

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A beach in France

France's fine beaches attract thousands of swimmers and sun bathers. Even in winter you can see them enjoying the Mediterranean beaches. At many shore resorts you may enjoy sailing and other water sports. The beach at Biarritz, however, is on the Atlantic coast just north of Spain's border. Beaches at Biarritz look much the same as beaches in Florida, on the Riviera, or on the Costa Brava in Spain.

People pack their little cars with food, towels, bathing gear, and sun umbrellas and head early to the beach to find a good spot before the crowds arrive. The beaches lead into the gentle waves of the Atlantic

Ocean. Protruding rocks are bases for tanning or diving. Paddle boards weave between the swimmers and guide their passengers across the top of the water. People can rent little square canvas structures at the beach to use for changing clothes or protection from the sun. Cars are parked in a hurry on either side of the paved, narrow street, some facing the car in front.

Crowds and fun are found at the beach! The landscape at Biarritz like that in the picture offers you a great view of cliffs and sandy beaches.

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ACTIVITIES

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Crowds and fun are found at the beach! The landscape at Biarritz offers you a great view of cliffs and sandy beaches.

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PICTURE-TEXT PRESENTATION TEST

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living for his family.

About two-thirds of Spain's cultivated land is planted in various grains. Wheat, which is by far the most popular crop, is grown on the Meseta by difficult dry-farming techniques. Too often he must break the hard, dry crust of the earth with a crude plough like that used by the Romans thousands of years ago. These little plots of land found on a small farm like that in the picture grow many crops. He uses some form of crop rotation to help keep some fertility in the soil.

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Lucerne is rich with the history of man. Parts of the old city walls still stand, their towers reminding us of the uneasy past. The narrow streets in the old quarter are scarcely wide enough for a single car to pass through. The buildings are decorated with painted frescoes and hung with old-fashioned signs. The most distinctive view in all Lucerne is the old covered bridge that slants across the river. Under its peaked roof are a series of paintings on wood that show the

history of Lucerne. Swans bask in the sun and float on the river under the bridge. The large tower with its iron bar windows found midway on the bridge's path remind us of history. Another sight in Lucerne like that in the picture is the twin steeples of an old church. The cleanliness of the city strikes you as you pass through the surrounding mountains into this picturesque city with its tidy buildings.

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The Spanish houses are two stories high with tile roofs.

This town on the coast of Spain creeps up the side of the steep hills and slopes down to the sandy beaches. On the hill are the remains of the old town walls, their large stone towers reminding us of the past. The narrow streets wind between the two story high apartment-like houses that have red tile roofs. The structure of the town lacks planning and sprawls along the hill. You view a mass of red roofs on white cement walls. On the edge of town you can see the new structure of a modern hotel.

A narrow street leads you into an open square in the center of the town. Each top window has a little narrow iron balcony. The old wall, enclosing the older

part of the town is crumbling in some areas. Above the walls you can see the old red roofs indicating the lack of planning done by people years ago. Around the town are sandy hills like that in the picture covered with shrubs and dry grass. This indicates that the climate is influenced by the Mediterranean Sea. Throngs of tourists swarm the town to enjoy the many shops and beaches.

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    a. rolling hills
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ACTIVITIES

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Life is hard for the farmers of Spain. They must work hard to make a living in their dry country. Besides having to work eroded and dry soil, many of them do not have very modern machinery and effective fertilizers. Too often they must break the hard, dry crust of the earth with a crude plough like that used by the Romans thousands of years ago. Threshing the grain is done by mules dragging a wooden stoneboat across the straw that is placed on the ground. This separates the grain from the straw leaving the grain on the ground. The mule has a leather headband with tassels dangling down over his forehead. This moves

as he circles while he is threshing the grain.

Often the farms are so small that it is difficult for farmers to make a living for their family. Some of them do not even own the land they farm so earn little money. Some of the land which these men farm, like that in the picture, is several miles from the town in which they live. In practically no other country does man have to work so hard to force a living from the soil.

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Many Spanish people enjoy the excitement of a bullfight.

Special days in Spain are days when there is a bullfight. The day often starts with a short parade. The parade is led by several men carrying large signs. These signs advertize the bullfight that will be held. The people of Spain do not look upon bullfighting as a sport. Instead, they watch a bullfight as we might an exciting play. The brave toreadors are as skillful and graceful as dancers. When a bullfighter attempts a graceful or dangerous move the crowd shouts "Ole!". At times they even throw flowers and hats into the bull ring.

The event begins with a nod of permission from the

president of the bull ring. All toreadors and horsemen parade into the large center circle of the bull ring. The crowd gets attached to its favorite toreador and cheers him as he parades by. This opening ceremony is exciting and colorful and gives the crowd its first view of today's brave toreadors. Each bullfighter is dressed in a bright embroidered jacket and oddly shaped black hat. His only tools are a red cape and a sword with a sharp point like those in the picture.

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12. One would expect the winter climate to be

   a. hot and dry
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13. The tower found in the middle of the bridge would likely have been a

   a. party room
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The Spanish houses are two stories high with tile roofs.

This town on the coast of Spain creeps up the side of the steep hills and slopes down to the sandy beaches. On the hill are the remains of the old town walls, their large stone towers reminding us of the past. The narrow streets wind between the two story high apartment-like houses that have red tile roofs. The structure of the town lacks planning and sprawls along the hill. You view a mass of red roofs on white cement walls. On the edge of town you can see the new structure of a modern hotel.

A narrow street leads you into an open square in the center of the town. Each top window has a little narrow iron balcony. The old wall, enclosing the older

part of the town is crumbling in some areas. Above the walls you can see the old red roofs indicating the lack of planning done by people years ago. Around the town are sandy hills covered with shrubs and dry grass. This indicates that the climate is influenced by the Mediterranean Sea. Throngs of tourists swarm the town to enjoy the many shops and beaches.

Choose the best answer and blacken in the proper space on the answer sheet.

14. The landscape would best be considered

    a. rolling hills
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15. The outside covering of the homes would best be said to be

    a. red brick
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20. Near the village one would likely find

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b. resorts in the desert
c. skiing in the hills
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ACTIVITIES

Many Spanish farmers thresh their grain with mules.

Life is hard for the farmers of Spain. They must work hard to make a living in their dry country. Besides having to work eroded and dry soil, many of them do not have very modern machinery and effective fertilizers. Too often they must break the hard, dry crust of the earth with a crude plough like that used by the Romans thousands of years ago. Threshing the grain is done by mules dragging a wooden stoneboat across the straw that is placed on the ground. This separates the grain from the straw leaving the grain on the ground. The mule has a leather headband with tassels dangling down over his forehead. This moves

as he circles while he is threshing the grain.

Often the farms are so small that it is difficult for farmers to make a living for their family. Some of them do not even own the land they farm so earn little money. Some of the land which these men farm is several miles from the town in which they live. In practically no other country does man have to work so hard to force a living from the soil.

Choose the best answer and blacken in the proper space on the answer sheet.

21. In this method of threshing the grain, the grain is

    a. thrown onto the stoneboat by the man
    b. eaten by the mule as he circles
    c. blown into a hopper nearby
    d. left on the ground under the straw

22. The farming methods of Spain are

    a. technical
    b. highly skilled
    c. primitive
    d. practical

23. The land in Spain is

    a. arid
    b. productive
    c. moist
    d. continental

24. The geography and method of farming in Spain is an indication of the

    a. climate of the country
    b. type of life of the farmer
    c. recreational activities of the people
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25. This method of threshing the grain would be associated with which type of agriculture?

    a. secondary farming
    b. subsistence farming
    c. commissioned farming
    d. mixed farming

26. The natural plant life found here would most likely be some form of

    a. lush growth
    b. scanty growth
    c. abundant growth
    d. dense growth

27. This type of farming method is an indication of lack of

    a. motivation
    b. prosperity
    c. drought
    d. purpose

Many Spanish people enjoy the excitement of a bullfight.

Special days in Spain are days when there is a bullfight. The day often starts with a short parade. The parade is led by several men carrying large signs. These signs advertize the bullfight that will be held. The people of Spain do not look upon bullfighting as a sport. Instead, they watch a bullfight as we might an exciting play. The brave toreadors are as skillful and graceful as dancers. When a bullfighter attempts a graceful or dangerous move the crowd shouts "Ole!". At times they even throw flowers and hats into the bull ring.

The event begins with a nod of permission from the

president of the bull ring. All toreadors and horsemen parade into the large center circle of the bull ring. The crowd gets attached to its favorite toreador and cheers him as he parades by. This opening ceremony is exciting and colorful and gives the crowd its first view of today's brave toreadors. Each bullfighter is dressed in a bright embroidered jacket and oddly shaped black hat. His only tools are a red cape and a sword with a sharp point.

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    a. an activity of all the people
    b. a world wide activity
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29. A bullfight is considered a

    a. dance routine of man
    b. skillful battle between man and animal
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30. A high moment of the contest for the people comes when the most famous toreador

    a. throws flowers into the ring
    b. prepares to meet the bull
    c. is greeted by the other toreadors
    d. rides in an open-topped car to the bullfight

Many French people go to the beaches at Biarritz.

France's fine beaches attract thousands of swimmers and sun bathers. Even in winter you can see them enjoying the Mediterranean beaches. At many shore resorts you may enjoy sailing and other water sports. The beach at Biarritz, however, is on the Atlantic coast just north of Spain's border. Beaches at Biarritz look much the same as beaches in Florida, on the Riviera, or on the Costa Brava in Spain.

People pack their little cars with food, towels, bathing gear, and sun umbrellas and head early to the beach to find a good spot before the crowds arrive. The beaches lead into the gentle waves of the Atlantic

Ocean. Protruding rocks are bases for tanning or diving. Paddle boards weave between the swimmers and guide their passengers across the top of the water. People can rent little square canvas structures at the beach to use for changing clothes or protection from the sun. Cars are parked in a hurry on either side of the paved, narrow street, some facing the car in front.

Crowds and fun are found at the beach! The landscape at Biarritz offers you a great view of cliffs and sandy beaches.

Choose the best answer and blacken in the proper space on the answer sheet.

31. What would be the best means of protection from the sun at the beach?

    a. tall buildings
    b. sand
    c. umbrellas
    d. trees

32. Most people of France, travelling to the beach at Biarritz, would

    a. take bikes
    b. fly planes
    c. hitch hike
    d. drive cars

33. Which activity would be LEAST likely to be found at the beach at Biarritz?

    a. swimming
    b. deep sea diving
    c. suntanning
    d. eating

34. The rocks sticking out of the water would be a result of

    a. erosion by water
    b. the dropping of the surrounding water
    c. the buildup of sand
    d. packed sand formations

35. Cars in France would be most similar to

    a. Pontiacs
    b. Cadillacs
    c. Vegas
    d. Mavericks

36. The road by the beach is

    a. a narrow path for walking
    b. packed with people tanning
    c. a paved street
    d. not legally used for walking

37. People of France

a. enjoy water recreational activities
b. prefer swimming to water skiing
c. deep sea dive at Biarritz
d. are not allowed to eat in swimming areas

38. The coastline at Biarritz

a. is flat
b. has steep cliffs
c. is covered with evergreen trees
[✓ d. contains vineyards]

PICTURE-TEXT PRESENTATION TEST

PPD

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1. Do not turn this page until you are asked to do so.
2. As I read the directions aloud, follow the directions silently.
3. You should have an answer sheet on your desk. Fill in the information listed at the top of the answer sheet: name, age, male or female, date, and test name.
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   EXAMPLE:

   Tom is a nine year old in grade 3. He is a

   a. dog
   b. boy
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5. When you have completed the test you will have answered thirty-eight questions.
6. You are not being timed. Work quickly and carefully through the test.
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SCENES

Most farms in Spain are little plots of land a few miles from a little village. Many farmers live in these little villages nearby and work the land during the day. But in some cases small farm houses are built on the individually owned plot of land. Since it is some distance from a village the farmer must be quite self-sufficient. He keeps one or two animals that he can afford in a strong enclosure. Besides having to work eroded and dry soil, he is handicapped by very primitive methods of agriculture. Often the farm is so small that it is very difficult for him to make a living for his family.

About two-thirds of Spain's cultivated land is planted in various grains. Wheat, which is by far the most popular crop, is grown on the Meseta by difficult dry-farming techniques. Too often he must break the hard, dry crust of the earth with a crude plough like that used by the Romans thousands of years ago. These little plots of land found on a small farm like that in the picture grow many crops. He uses some form of crop rotation to help keep some fertility in the soil.

Choose the best answer and blacken in the proper space on the answer sheet.

1. The climate in Spain is

   a. semi-arid
   b. tundra
   c. rain forest
   d. west coast marine

2. The geography and method of farming found in Spain are an indication of

   a. the climate of the country
   b. the type of home life of the farmer
   c. the activities of the people
   d. primitive occupations

3. The natural vegetation found here would most likely be

   a. bushland
   b. some form of sparse growth
   c. some form of lush growth
   d. nonexistent

4. In order to determine the standard of living of a Spanish farmer you need to know several things. Which of the following factors is most important?

   a. geography
   b. soil type
   c. habits
   d. ancestry

5. Spanish farmers who have animals

   a. allow them to roam the countryside
   b. use them for bargaining
   c. protect them by stone fences
   d. share them with neighbors

6. Small cultivated plots of land are a result of

   a. a low population density
   b. a low standard of living
   c. lack of desire to work large areas
   d. government ownership of land

7. In an attempt to increase productivity the farmer

a. irrigates the land
b. uses crop rotation methods
c. uses fertilizers
d. plants crops every other year

8. The type of agricultural activity in Spain is mainly

a. grain
b. hay
c. wheat
d. cattle

This old town stands on the shore of Lake Lucerne. The River Reuss cuts a blue path between its buildings. Lucerne is popular with travellers, but it has such great charm that even hordes of them do not spoil it.

Lucerne is rich with the history of man. Parts of the old city walls still stand, their towers reminding us of the uneasy past. The narrow streets in the old quarter are scarcely wide enough for a single car to pass through. The buildings are decorated with painted frescoes and hung with old-fashioned signs. The most distinctive view in all Lucerne is the old covered bridge that slants across the river. Under its peaked roof are a series of paintings on wood that show the

history of Lucerne. Swans bask in the sun and float on the river under the bridge. The large tower with its iron bar windows found midway on the bridge's path remind us of history. Another sight in Lucerne like that in the picture is the twin steeples of an old church. The cleanliness of the city strikes you as you pass through the surrounding mountains into this picturesque city with its tidy buildings.

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9. Lucerne is a city in Switzerland that

   a. has a recent history
   b. dates back in history
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10. The landscape surrounding Lucerne is

   a. terraced
   b. trenched
   c. mountainous
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11. One would assume that Lucerne

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ACTIVITIES

1.

Life is hard for the farmers of Spain. They must work hard to make a living in their dry country. Besides having to work eroded and dry soil, many of them do not have very modern machinery and effective fertilizers. Too often they must break the hard, dry crust of the earth with a crude plough like that used by the Romans thousands of years ago. Threshing the grain is done by mules dragging a wooden stoneboat across the straw that is placed on the ground. This separates the grain from the straw leaving the grain on the ground. The mule has a leather headband with tassels dangling down over his forehead. This moves

as he circles while he is threshing the grain.

Often the farms are so small that it is difficult for farmers to make a living for their family. Some of them do not even own the land they farm so earn little money. Some of the land which these men farm is several miles from the town in which they live. In practically no other country does man have to work so hard to force a living from the soil.

Choose the best answer and blacken in the proper space on the answer sheet.

21. In this method of threshing the grain, the grain is

    a. thrown onto the stoneboat by the man
    b. eaten by the mule as he circles
    c. blown into a hopper nearby
    d. left on the ground under the straw

22. The farming methods of Spain are

    a. technical
    b. highly skilled
    c. primitive
    d. practical

23. The land in Spain is

    a. arid
    b. productive
    c. moist
    d. continental

24. The geography and method of farming in Spain is an indication of the

    a. climate of the country
    b. type of life of the farmer
    c. recreational activities of the people
    d. primitive occupations found there

25. This method of threshing the grain would be associated with which type of agriculture?

    a. secondary farming
    b. subsistence farming
    c. commissioned farming
    d. mixed farming

26. The natural plant life found here would most likely be some form of

    a. lush growth
    b. scanty growth
    c. abundant growth
    d. dense growth

27. This type of farming method is an indication of lack of

    a. motivation
    b. prosperity
    c. drought
    d. purpose

b

Special days in Spain are days when there is a bullfight. The day often starts with a short parade. The parade is led by several men carrying large signs. These signs advertize the bullfight that will be held. The people of Spain do not look upon bullfighting as a sport. Instead, they watch a bullfight as we might an exciting play. The brave toreadors are as skillful and graceful as dancers. When a bullfighter attempts a graceful or dangerous move the crowd shouts "Ole!". At times they even throw flowers and hats into the bull ring.

The event begins with a nod of permission from the

president of the bull ring. All toreadors and horsemen parade into the large center circle of the bull ring. The crowd gets attached to its favorite toreador and cheers him as he parades by. This opening ceremony is exciting and colorful and gives the crowd its first view of today's brave toreadors. Each bullfighter is dressed in a bright embroidered jacket and oddly shaped black hat. His only tools are a red cape and a sword with a sharp point.

Choose the best answer and blacken in the proper space on the answer sheet.

28. A bullfight is

    a. an activity of all the people
    b. a world wide activity
    c. an activity practiced by a select few
    d. a team activity for men and women

29. A bullfight is considered a

    a. dance routine of man
    b. skillful battle between man and animal
    c. day of parades
    d. day of festivity for all people

30. A high moment of the contest for the people comes when the most famous toreador

    a. throws flowers into the ring
    b. prepares to meet the bull
    c. is greeted by the other toreadors
    d. rides in an open-topped car to the bullfight

France's fine beaches attract thousands of swimmers and sun bathers. Even in winter you can see them enjoying the Mediterranean beaches. At many shore resorts you may enjoy sailing and other water sports. The beach at Biarritz, however, is on the Atlantic coast just north of Spain's border. Beaches at Biarritz look much the same as beaches in Florida, on the Riviera, or on the Costa Brava in Spain.

People pack their little cars with food, towels, bathing gear, and sun umbrellas and head early to the beach to find a good spot before the crowds arrive. The beaches lead into the gentle waves of the Atlantic

Ocean. Protruding rocks are bases for tanning or diving. Paddle boards weave between the swimmers and guide their passengers across the top of the water. People can rent little square canvas structures at the beach to use for changing clothes or protection from the sun. Cars are parked in a hurry on either side of the paved, narrow street, some facing the car in front.

Crowds and fun are found at the beach! The landscape at Biarritz offers you a great view of cliffs and sandy beaches.

Choose the best answer and blacken in the proper space on the answer sheet.

31. What would be the best means of protection from the sun at the beach?

    a. tall buildings
    b. sand
    c. umbrellas
    d. trees

32. Most people of France, travelling to the beach at Biarritz, would

    a. take bikes
    b. fly planes
    c. hitch hike
    d. drive cars

33. Which activity would be LEAST likely to be found at the beach at Biarritz?

    a. swimming
    b. deep sea diving
    c. suntanning
    d. eating

34. The rocks sticking out of the water would be a result of

    a. erosion by water
    b. the dropping of the surrounding water
    c. the buildup of sand
    d. packed sand formations

35. Cars in France would be most similar to

    a. Pontiacs
    b. Cadillacs
    c. Vegas
    d. Mavericks

36. The road by the beach is

    a. a narrow path for walking
    b. packed with people tanning
    c. a paved street
    d. not legally used for walking

37. People of France

    a. enjoy water recreational activities
    b. prefer swimming to water skiing
    c. deep sea dive at Biarritz
    d. are not allowed to eat in swimming areas

38. The coastline at Biarritz

    a. is flat
    b. has steep cliffs
    c. is covered with evergreen trees
    d. contains vineyards

PICTURE-TEXT PRESENTATION TEST

W

DIRECTIONS FOR THE PICTURE-TEXT PRESENTATION

1. Do not turn this page until you are asked to do so.
2. As I read the directions aloud, follow the directions silently.
3. You should have an answer sheet on your desk. Fill in the information listed at the top of the answer sheet: name, age, male or female, date, and test name.
4. Do not make any marks on the test booklet. All marks will go on the answer sheet. You will blacken in the proper space on the answer sheet to match the answer you have chosen (a. b. c. or d.). Check to be sure that you have found the number on the answer sheet which matches the number of the question your are answering.

   EXAMPLE:

   Tom is a nine year old in grade 3. He is a

   a. dog
   b. boy
   c. girl
   d. cat

5. When you have completed the test you will have answered thirty-eight questions.
6. You are not being timed. Work quickly and carefully through the test.
7. Be sure to answer every question. There are no deductions for guessing.
8. If you have any questions please raise your hand.
9. Anyone not ready? Begin.

SCENES

Most farms in Spain are little plots of land a few miles from a little village. Many farmers live in these little villages nearby and work the land during the day. But in some cases small farm houses are built on the individually owned plot of land. Since it is some distance from a village the farmer must be quite self-sufficient. He keeps one or two animals that he can afford in a strong enclosure. Besides having to work eroded and dry soil, he is handicapped by very primitive methods of agriculture. Often the farm is so small that it is very difficult for him to make a living for his family.

About two-thirds of Spain's cultivated land is planted in various grains. Wheat, which is by far the most popular crop, is grown on the Meseta by difficult dry-farming techniques. Too often he must break the hard, dry crust of the earth with a crude plough like that used by the Romans thousands of years ago. These little plots of land found on a small farm grow many crops. He uses some form of crop rotation to help keep some fertility in the soil.

Choose the best answer and blacken in the proper space on the answer sheet.

1. The climate in Spain is
   - a. semi-arid
   - b. tundra
   - c. rain forest
   - d. west coast marine

2. The geography and method of farming found in Spain are an indication of
   - a. the climate of the country
   - b. the type of home life of the farmer
   - c. the activities of the people
   - d. primitive occupations

3. The natural vegetation found here would most likely be
   - a. bushland
   - b. some form of sparse growth
   - c. some form of lush growth
   - d. nonexistent

4. In order to determine the standard of living of a Spanish farmer you need to know several things. Which of the following factors is most important?
   - a. geography
   - b. soil type
   - c. habits
   - d. ancestry

5. Spanish farmers who have animals
   - a. allow them to roam the countryside
   - b. use them for bargaining
   - c. protect them by stone fences
   - d. share them with neighbors

6. Small cultivated plots of land are a result of
   - a. a low population density
   - b. a low standard of living
   - c. lack of desire to work large areas
   - d. government ownership of land

7. In an attempt to increase productivity the farmer

   a. irrigates the land
   b. uses crop rotation methods
   c. uses fertilizers
   d. plants crops every other year

8. The type of agricultural activity in Spain is mainly

   a. grain
   b. hay
   c. wheat
   d. cattle

This old town stands on the shore of Lake Lucerne. The River Reuss cuts a blue path between its buildings. Lucerne is popular with travellers, but it has such great charm that even hordes of them do not spoil it.

Lucerne is rich with the history of man. Parts of the old city walls still stand, their towers reminding us of the uneasy past. The narrow streets in the old quarter are scarcely wide enough for a single car to pass through. The buildings are decorated with painted frescoes and hung with old-fashioned signs. The most distinctive view in all Lucerne is the old covered bridge that slants across the river. Under its peaked roof are a series of paintings on wood that show the history of Lucerne. Swans bask in the sun and float on the river under the bridge. The large tower with its iron bar windows found midway on the bridge's path remind us of history. Another sight in Lucerne is the twin steeples of an old church. The cleanliness of the city strikes you as you pass through the surrounding mountains into this picturesque city with its tidy buildings.

Choose the best answer and blacken in the proper space on the answer sheet.

9. Lucerne is a city in Switzerland that

   a. has a recent history
   b. dates back in history
   c. was founded after World War II
   d. was founded after World War I

10. The landscape surrounding Lucerne is

    a. terraced
    b. trenched
    c. mountainous
    d. plain like

11. One would assume that Lucerne

    a. lacks pollution because of concern
    b. has pollution because of its industries
    c. lacks pollution because of tourism
    d. has pollution because of the animals

12. One would expect the winter climate to be

    a. hot and dry
    b. cool and snowy
    c. hot and wet
    d. cool and dry

13. The tower found in the middle of the bridge would likely have been a

    a. party room
    b. church
    c. monastery
    d. prison cell

This town on the coast of Spain creeps up the side of the steep hills and slopes down to the sandy beaches. On the hill are the remains of the old town walls, their large stone towers reminding us of the past. The narrow streets wind between the two story high apartment-like houses that have red tile roofs. The structure of the town lacks planning and sprawls along the hill. You view a mass of red roofs on white cement walls. On the edge of town you can see the new structure of a modern hotel.

A narrow street leads you into an open square in the center of the town. Each top window has a little narrow, iron balcony. The old wall, enclosing the older part of the town is crumbling in some areas. Above the walls you can see the old red roofs indicating the lack of planning done by people years ago. Around the town are sandy hills covered with shrubs and dry grass. This indicates that the climate is influenced by the Mediterranean Sea. Throngs of tourists swarm the town to enjoy the many shops and beaches.

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14. The landscape would best be considered

    a. rolling hills
    b. plains
    c. mountains
    d. plateaus

15. The outside covering of the homes would best be said to be

    a. red brick
    b. brown stone
    c. grass and mud
    d. whitewashed stucco

16. The red tile roofs would likely be made of

    a. local wood carved and painted
    b. imported metal painted red
    c. baked clay
    d. colored glass

17. The wall surrounding the old city is an indication of

    a. segregation of races
    b. the village once being a prison town
    c. closed attitude of monasteries
    d. needed protection in the past

18. The layout of the village would best be described as having

    a. planned streets on a grid
    b. unplanned streets on a square
    c. planned streets not on a square
    d. unplanned streets not on a grid

19. Most dwellings would be

    a. four story apartments
    b. three story single family dwellings
    c. two story multiple dwellings
    d. one story single family dwellings

20. Near the village one would likely find

    a. winding roads through the hills
    b. resorts in the desert
    c. skiing in the hills
    d. fishing in the nearby ocean

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